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THE PSYCHOLOGICAL BULLETIN

1. GENERAL

759. LASHLEY, K. S., The Behavioristic Interpretation of Consciousness. *Psychol. Rev.*, 1923, 30, 237-273, 329-354.

Three distinct and incompatible attitudes are distinguishable among behaviorists: (1) Facts of conscious experience exist but are irrelevant to the problems of behavior; (2) conscious facts exist but are not amenable to scientific treatment; (3) "the supposedly unique facts of consciousness do not exist" (240).

Professor Lashley's own position is stated in the following quotation: "To me the essence of behaviorism is the belief that the study of man will reveal nothing except what is adequately describable in the concepts of mechanics and chemistry, and this far outweighs the question of the method by which the study is conducted. I believe that it is possible to construct a physiological psychology which will meet the dualist on his own ground, will accept the data which he advances and show that these data can be embodied in a mechanistic system. A behaviorism will thus develop which will be an adequate substitute for the older psychology. Its physiological account of behavior will also be a complete and adequate account of all the phenomena of consciousness. It will be methodological only in insisting that the concepts of the physical sciences are the only ones which can serve as the basis for a science, and in demanding that all psychological data, however obtained, shall be subjected to physical or physiological interpretation" (244).

The first task of the paper is an analysis of the alleged facts of consciousness and a behavioristic evaluation of them. These facts are discussed at considerable length under the headings of awareness, content, organization of consciousness. (1) *Awareness* is not dis-

coverable by careful introspection; it is not directly experienced. Therefore, the behaviorist need not deal specifically with the problem of awareness. "If he can give an account of the attributes of content, his task is accomplished" (252). (2) *Content* is held by the subjectivists to be differentiated from the data of physics by two characteristics—(a) *qualitative diversity*, and (b) *self-transcendence*. As regards qualitative diversity, the subjectivist's contention that quality is a thing in itself is denied. Qualities, whether sensory or imaginal, simply differ and the "behaviorist is fully justified in assuming unanalyzable quantitative diversity as the sole condition of quality, . . ." (253). With reference to the doctrine of self-transcendence the writer asserts that pastness, remoteness and futurity, as felt in experience, are meanings. Introspective analysis (Titchener) shows that meaning is the mere coexistence of contents with the leading of one content to another. There is no good introspective evidence for the doctrine of transcendence and "its rejection seems to me essential to the progress of psychological science" (260). (3) *The organization of consciousness*, Professor Lashley believes, is physically determined and all of the relationships ascribed to consciousness exist among physical entities.

One section of the paper—devoted to vitalism—objects to "any definition of behaviorism which would make it more than the science of the physiology of reaction to stimulation" (271). The discussion of vitalism does not advance the main argument but it serves to reënforce the mechanistic bias of the writer.

"The problem which confronts the behaviorist is to find in the physical world deterministic relations between nonqualitative, discrete entities in time and space which fulfill certain conditions of relationship laid down by subjective evidence" (329). In an attempt to solve this problem Professor Lashley begins by imagining a machine capable of doing everything a conscious man can do. The machine contains no "psychic stuff." Nevertheless it can solve problems, reply verbally and behave in every respect as a "conscious" machine behaves. "We must conclude, therefore, that our machine is, by virtue of its organization, fully conscious. An adequate account of its behavior will constitute as complete a description of the content and processes of consciousness as can be given from introspective data" (336).

In another section Professor Lashley mentions two points of view which can not be attacked on the basis of experiential evidence.

(1) It is sometimes claimed that consciousness has an "ineffable" character. Professor Lashley finds no such character and he adds that if there were an ineffable character, subjective science would be impossible and a behavioristic account would be as adequate as any other. (2) The double aspect doctrine is discussed. "The subjective and objective descriptions are not descriptions from two essentially different points of view, or descriptions of two different aspects, but simply descriptions of the same thing with different degrees of accuracy and detail" (338).

Professor Lashley next attacks subjective psychology directly, stating that there is no reliable subjective criterion of consciousness. "All that introspection can do is to describe contents of varying complexity and assert that consciousness ends somewhere near the place where content becomes so vague and obscure that subsequent thought about it is impossible. Objective psychology provides an equally definite or *equally indefinite* criterion of consciousness. It describes systems of varying complexity, from the simple reflex, arousing no subsequent reactions, to the most complex chains of language and gestural activities" (340).

"Consciousness" is a general term applied to a variety of complex reactions, especially to verbo-gestural coördinations. "Consciousness consists of particular patterns and sequences of the reactions interacting among themselves, and the attributes of consciousness are definable in terms of the relations and successions of the reactions. The patterns of reaction may exist in varying degrees of complexity and continuity. As the complexity and continuity of the processes increase from simple spinal coördination to complex cerebral integrations the sum of integrated activity takes on more and more of the 'conscious attributes' of the normal waking individual. In the series of increasing complexity there are no sharp breaks, as there is no clear distinction between the subjectivist's divisions of conscious and subconscious" (341-342).

In a section entitled "Science and Sentimentalism in Psychology" Professor Lashley states that the acceptance of the physical world involves a behavioristic psychology and that we cannot set apart a corner of experience wherein physical law does not hold. He raises the question of the origin of philosophical systems, especially the mechanistic and teleological systems. His own mechanistic bias he psychoanalyzes(!). He states that the two systems, "mechanistic

explanation and finalistic valuation, stand out as incompatible points of view, scientific versus humanistic" (346).

In conclusion Professor Lashley states that the behaviorist's aim is to build a true science of human conduct based upon physiological and physical science. In this science introspection may play a part but it must be a very different form of introspection from that which burdens the literature. P. T. YOUNG (Illinois).

760. THURSTONE, L. L., The Stimulus-Response Fallacy in Psychology. *Psychol. Rev.*, 1923, 30, 354-370.

Present day psychology has overemphasized the stimulus-response formula of action and underemphasized the individual. The energy for behavior comes from within ourselves and not from the stimulus. Drives, motives and determining tendencies are of primary importance in the psychological act. If we start with the energy source of action and trace through the stages which lead to the satisfaction of the actor and the quiescence at the source of energy, we find at the start a reduced threshold for certain stimuli. The appearance of the stimulus which is followed by the overt act is "one of the last events in the expression of impulses in conduct. The stimulus is not the starting point for behavior." P. T. YOUNG (Illinois).

761. RAND, B., The Early Development of Hartley's Doctrine of Association. *Psychol. Rev.*, 1923, 30, 306-321.

Samuell Parr, in a collection of metaphysical tracts published posthumously in 1837, includes a Latin treatise written by David Hartley. Parr gave an incorrect date to Hartley's tract; the correct date, as the writer shows, was 1746. In this tract Hartley develops as a physiological psychologist his doctrine of association. "The year 1746, the date of Hartley's Latin tract, rather than 1749, that of his 'Observations on Man,' is therefore the date of the birth of the association psychology." P. T. YOUNG (Illinois).

762. BINGHAM, W. V., On the Possibility of an Applied Psychology. *Psychol. Rev.*, 1923, 30, 289-306.

Just as psychology has broken away from philosophy so applied psychology will some day develop into an independent discipline. The distinction between the scientific and the practical goal is impor-

tant. The scientific aim is description and explanation; the technological, prediction and control. Applied psychology lays emphasis upon the technique and skill of control. It has practical standards. Historically science and technology have developed hand in hand. Sometimes the one has led and sometimes the other. P. T. YOUNG (Illinois).

763. McDougall, W., Purposive or Mechanical Psychology?
Psychol. Rev., 1923, 30, 273-289.

The distinction between purposive and mechanical psychology cuts across both introspective and behavioristic psychology. Although behaviorism is actually mechanistic, a teleological behaviorism is theoretically possible. "If then you must be behaviorists, I beg that you will be purposive behaviorists." McDougall traces the history of mechanistic psychology from Descartes to the present time. Münsterberg began his psychology by accepting the mechanistic dogma. Later his teaching shows two psychologies, the one mechanistic and the other teleological. After working with practical problems he came to the conclusion that the purposive psychology is the more important and worth while. Watson may go through a similar development. "I have no doubt that Dr. Watson is capable of giving you the psychology you need and that he is developing for you a Purposive Psychology." P. T. YOUNG (Illinois).

764. Toops, H. A., and Miner, Z. F., A Serviceable P. E. Table.
J. of Educ. Research, 1924, 9, 63-68.

A table to assist in calculating the probable error of the Pearson coefficient of correlation which should prove very useful. S. W. FERNBERGER (Pennsylvania).

765. Bogen, H., Zum Behaviorismus: ein Kapitel naturwissenschaftlicher Psychologie. *Allgem. Deutsche Lehrerzeit.*, 1923, 52, 437-439.

Eine kritische Stellungnahme an der Hand von Thorndikes "Psychologie der Erziehung." Die Argumente der Kritik werden hergeleitet aus dem Charakter der Psychologie als selbständiger Disziplin, aus der Schwäche des Th.schen Assoziationsbegriffes und aus dem Charakter des seelischen Lebens als gestalteter Einheit. H. BOGEN (Berlin).

766. TOORS, H. A., Calculating the Standard Deviation by Plotting and Without Grouping the Raw Measures. *J. of Exper. Psychol.*, 1924, 7, 75-80.

The writer discusses and illustrates a method for computing the standard deviation which eliminates the undesirable negative deviations and gives not an approximate value, but one which is correct to any desired number of decimal places. C. C. PRATT (Harvard).

767. WADDELL, J. A., An Improved Arrangement of a Signal Magnet. *J. of Lab. and Clin. Med.*, 1923, 9, 127-128.

Signal magnet arranged to function through writing stylus of tambour or other recording marker. D. A. LAIRD (New Haven).

768. SWABEY, W. C., The Phenomenology of Experience and Psychologism. *Philos. Rev.*, 1924, 33, 51-66.

"We thus see how erroneous is the theory that logic is a normative study of *mental processes*. It has no doubt its normative implications with regard to the latter, but even the traditional formal logic is clearly concerned rather with the formal structure of the *content* of our cognitive processes than with a direct study of these processes themselves." S. W. FERNBERGER (Pennsylvania).

769. URBAN, W. M., The Intelligible World. *Philos. Rev.*, 1924, 33, 1-29.

"The ideal of intelligibility and of an intelligible world, as it has functioned in historic philosophy, includes, we have said, two distinct but closely related elements. On the one hand, there is the ideal of an intelligible world, an intelligible order in which a life of meaning and significance can be lived. On the other hand, there is an ideal of intelligible concepts, of a form of philosophical intelligibility in which this world, this order, can be adequately expressed." S. W. FERNBERGER (Pennsylvania).

2. NERVOUS SYSTEM

770. FORBES, A., RAY, L. H., and GRIFFITH, F. R., JR., The Nature of the Delay in the Response to the Second of Two Stimuli in Nerve and in the Nerve-Muscle Preparation. *Amer. J. of Physiol.*, 1923, 66, 553-617. M. J. ZIGLER (Princeton).

771. COOPER, S., and ADRAIN, E. D., Frequency of Discharge from the Spinal Cord in the Frog. *J. of Physiol.*, 1923, 58, 209-229.

The rate of discharge from the cord is not too rapid for the muscles to follow; at 15° C. the cord discharges 120 impulses per second. D. A. LAIRD (New Haven).

3. SENSATION AND PERCEPTION

772. FUCHS, W., Eine Pseudofovea bei Hemianopikern. *Psychol. Forsch.*, 1921, 1, 157-186.

In einer früheren Untersuchung (*Z. f. Psychol.*, 84, S. 129 ff) hat Fuchs nachgewiesen, dass bei gewissen Hemianopikern eine "neue Fovea," eine sog. Pseudofovea, sich ausbildet, die im erhaltenen Teil des somatischen Gesichtsfeldes liegt und die anstelle der anatomischen Fovea maximale Sehschärfe hat. Von dieser neuen Fovea nimmt die Deutlichkeit der Seheindrücke nach allen Seiten ab, auch nach der anatomischen Fovea hin, sodass die letztere in Bezug auf ihre Functionstüchtigkeit zu einer peripheren Stelle herabsinkt. Die Lage der "neuen Fovea" ist nicht fest, sie ist nicht abhängig von den anatomischen Verhältnissen, sondern sie stellt ein rein functionelles Zentrum dar, dessen Ort von den gerade vorhandenen Sehbedingungen abhängt. In der vorliegenden Untersuchung, die an einem Patienten mit completer homonymer Hemianopsie (im Institut zur Erforschung der Folgeerscheinungen von Hirnverletzungen in Frankfurt am. M.) durchgeführt wurde, weist Fuchs nach, dass die Lage "neuen Fovea" in erster Linie von der Sehgrösse, und nicht von der Grösse des Gesichtswinkels der Objecte bestimmt ist: je grösser das gebotene Object erscheint, um so weiter nach aussen rückt die Pseudofovea. Vergleichende Untersuchungen über die Sehschärfe der anatomischen Fovea und der Pseudofovea ergaben, dass die Sehschärfe der "neuen" Fovea um 1/6 bis 1/4 zuweilen um 1/3 die Sehschärfe der anatomischen Fovea übertrifft.

Theoretisch noch wichtiger als die genannten Ergebnisse sind die speziellen Versuche des Verf. über die Bedingungen der Deutlichkeit der durch die "neue" Fovea vermittelten Seheindrücke. Es zeigte sich vor allem, dass die Deutlichkeit rein "gestaltmässig" bedingt ist. Der Verf. resümiert die Ergebnisse folgendermassen: Ein kleines Object, das etwas peripher geboten wird, erscheint verschwommen

und undeutlich oder es wird überhaupt nicht gesehen. Es wird erst deutlich oder sogar erst sichtbar, wenn es in eine grössere Gestalt als constituierender Bestandteil derselben aufgenommen wird. Seine Deutlichkeit. . . . entsteht und vergeht mit dieser Gestalt. Daher hat eine isolierte Heraushebung des kleinen Objectes . . . keine verdeutlichende, sondern eine verundeutlichende Wirkung oder führt gar zu seinem völligen Verschwinden, weil durch die Isolierung die Gesamtgestalt verloren geht, in der und durch die allein seine Deutlichkeit oder gar Sichtbarkeit zustande kommt. A. GELB (Frankfurt a. Main).

773. GEHRCKE, E., und LAU, E., Ueber Erscheinungen beim Sehen kontinuierlicher Helligkeitsverteilungen. *Z. f. Sinnesphysiol.*, 1921, 53, 174–178.

Nicht nur bei diskontinuierlichen Helligkeitsunterschieden wirkt der Kontrast, sondern auch bei kontinuierlicher Helligkeitsverteilung. Die Verf. haben das an, unter verschiedener Beleuchtung aufgenommenen, Photographien eines gleichmässig weissgefärbten Kegels dargetan. Es zeigte sich, dass als Kurve gleicher Helligkeit nicht die (objektiv gleich helle) erzeugende Gerade des Kegelmantels, sondern eine krumme Linie gesehen wird. Und zwar nimmt die Krümmung nach der Kegelspitze zu. Durch Kontrastwirkung erscheint die Umgrenzungslinie des hellsten Weiss in umgekehrtem Sinne gekrümmt wie die des dunkelsten Schwarz. Die Kontrastwirkung bleibt, aus verschiedenen Entfernungen betrachtet, nicht dieselbe, aber sie betrifft immer ungefähr den gleichen Flächeninhalt auf der Netzhaut. A. KIRSCHMANN (Leipzig).

774. KATONA, G., Experimentelle Beiträge zur Lehre von den Beziehungen zwischen den achromatischen und chromatischen Sehprozessen. *Z. f. Sinnesphysiol.*, 1921, 53, 145–173.

Im ersten Teil behandelt Verf. den Einfluss der Weissermüdung auf die Stärke des Simultankontrastes. Er fand, dass die Weissermüdung den simultanen Farbenkontrast verstärkt. Dies war auch der Fall, wenn das Infeld aus Tuschschwarz hergestellt war. Die verschiedene Stärke des Ermüdungseinflusses bei verschiedenen Umfeldsfarben erklärt sich aus den Weiss-Valenz-Verhältnissen des Infeldes. In einem zweiten Teil behandelt Verf., im Anschluss an die Arbeit von Révész und diese bestätigend, den antichromatischen

Einfluss gleichzeitig einwirkenden weissen Lichtes. A. KIRSCHMANN (Leipzig).

775. WÖLFFLIN, E., Basel, Ueber Beobachtungen an anomalen Trichromaten. *Z. f. Sinnesphysiol.*, 1922, 54, 49–57.

Die anomalen Trichromaten bilden den Uebergang von den Farbenblinden zu den Farbentüchtigen. Verf. fand unter 162 Untersuchten 14 Anomale ($8\frac{1}{2}\%$), sämtlich männlichen Geschlechtes und alle deuteranomal. Der Vererbungsmodus scheint derselbe zu sein, wie bei der Farbenblindheit. Es wird ein besonders interessanter Fall von absoluter Rotüberempfindlichkeit bei gleichzeitiger geschwächter Grünempfindlichkeit geschildert. Die Rotüberempfindlichkeit war am Morgen stärker als zu anderen Tageszeiten und wurde durch Alkoholgenuss vermindert. Auffallend war, dass beim Perimetrieren zwar die Rot- und Grünisochromen zusammenfielen, nicht aber die Grenzen für die Blau- und Gelbempfindung. Im Anschluss an diese Ergebnisse erörtert Verf. noch die viel ventilirte Frage einer etwaigen Farbenuntüchtigkeit gewisser namhafter Maler älterer Schulen, glaubt aber, dass man nur im Falle auffallender Abweichung im Kolorit von Kopien auf Farbenschwäche schliessen könne. A. KIRSCHMANN (Leipzig).

776. SEITZ, W., Ueber die Definition der Sättigung einer Farbe nach Helmholtz und Exner und über das Ostwald'sche Farbensystem. *Z. f. Sinnesphysiol.*, 1922, 54, 146–158.

Verf., prüft die nach der Helmholtz'schen Theorie bei Mischung von drei Farben (x, y, z), von denen z den geringsten Wert haben soll, für Sättigung und Helligkeit geforderten Sätze:

$$\begin{aligned} F \text{ (Anteil an reiner Farbe)} &= x + y - 2z \\ \text{und } W \text{ (Anteil an Weiss)} &= 3z \end{aligned}$$

mit Hilfe von durch ein Gitter erzeugten Spektralfarben und findet dass die Ergebnisse hinsichtlich des Schwarz- und Weissgehaltes mit den Stufen des Ostwald'schen Farbensystems nicht übereinstimmen. A. KIRSCHMANN (Leipzig).

777. SCHANZ, F., Eine neue Theorie des Sehens. *Z. f. Sinnesphysiol.*, 1922, 54, 93–101.

Der physiologische Vorgang beim Sehen ist folgender: das Licht wird vom Pigmentepithel absorbiert. Das absorbierte Licht schleu-

dert aus dem Pigment Elektronen heraus, deren Geschwindigkeit je nach der Wellenlänge verschieden ist. Wo die Elektronen auftreffen (Stäbschen und Zapfen), erzeugen sie Aktionsströme, die charakteristisch beeinflusst sind durch die Geschwindigkeit. Durch den Aktionsstrom erfolgt die Erregung des Sehzentrums. Verfasser sucht dann auch die Farbenempfindung und ihre Komplementärverhältnisse durch diese Geschwindigkeitsbeziehungen zu erklären und weist darauf hin, dass es "für die Strahlen von 500–560 $\mu\mu$ keine Komplementärfarben gibt." A. KIRSCHMANN (Leipzig).

778. KROH, O., Ueber einen Fall von anomaler Funktionsweise des Stäbchenapparates. *Z. f. Sinnesphysiol.*, 1922, 53, 197–212.

Verf. beschreibt einen Fall von angeborener Protanopie mit bedeutender Verkürzung am langwelligen Ende, der die interessante Abweichung zeigt, dass bei Helladaptation, stark herabgesetzter Feldhelligkeit und verlängerter Betrachtungszeit, und ebenso bei Dunkeladaptation und kurzer Betrachtung, sich dem "Gelb" des langwelligen Spektrums ein blauer Schimmer überlagert. Derselbe konnte stellenweise so stark werden, dass fast nur noch Blau gesehen wurde und dass es zu sekundären spektralen Wendepunkten (z.B. bei 700 $\mu\mu$) kam, die aber hinsichtlich ihrer Lage von Betrachtungszeit, Feldhelligkeit und Adaptationszustand abhängig waren. Verf. erklärt diese Erscheinung als das Resultat der Stäbschen-erregung und betrachtet seinen Befund als einen Beweis für die blaue Färbung der Weissempfindung des Stäbchenauges. A. KIRSCHMANN (Leipzig).

779. KROH, O., Die Weissempfindung des Stäbchenauges. *Z. f. Sinnesphysiol.*, 1922, 53, 187–196.

Verf. sucht durch eine bei völliger Dunkelheit ausgeführte experimentelle Untersuchung eine Bestätigung der v. Kries'schen Theorie zu liefern, wonach die Weissempfindung des dunkeladaptierten (Stäbchen-) Auges eine bläuliche Färbung besitzt, die einer Wellenlänge von 483 $\mu\mu$ entspricht. Von besonderem Interesse sind die Ergebnisse an Hemeralopen und farbenblinden Versuchspersonen. A. KIRSCHMANN (Leipzig).

780. FILEHNE, W., Ueber das optische Wahrnehmen von Bewegungen. *Z. f. Sinnesphysiol.*, 1922, 53, 134–144.

Unter "Wahrnehmung" versteht der Verf. ähnlich wie Helmholtz ein tatsächliches Erlebnis, nicht ein Produkt von Urteilen und

Schlüssen, die Bewegung des Sekundenzeigers wird wahrgenommen, die Bewegung des Stundenzeigers nicht. Exner hatte auf Grund der Tatsache, dass im peripherischen Sehen Bewegung erkannt wird, auch wenn von Form und Farbe nichts mehr gesehen wird, die Bewegung eine "Empfindung" genannt, und von spezifischen Bewegungsempfindungen geredet. Für Filehne ist die Bewegung (selbstverständlich nur die direkt erlebte, nicht die bloss erschlossene) eine "Wahrnehmung" und zwar auch dann, wenn der objektive Befund lehrt, dass nur eine Scheinbewegung vorliegt. An der Hand der Theorie des Ego-Koordinatensystems behandelt er dann in geistreicher Weise das bekannte Problem der verschiedenen Geschwindigkeitsauffassung bei Fixation eines Bahnpunktes und beim Folgen der Bewegung, wobei im ersteren Fall die Geschwindigkeit doppelt so gross erscheint. Er zeigt das beide Eindrücke richtig sind, relativ zu den in Frage kommenden Bezugssystemen. A. KIRSCHMANN (Leipzig).

781. MÜLLER, G. E., Zur Theorie des Stäbchenapparates und der Zapfenblindheit (Zweiter Teil). *Z. f. Sinnesphysiol.*, 1922, 54, 102-145.

G. E. Müller stellt der bekannten v. Kries'schen Annahme einer blossen Dunkelfunktion des Stäbchenapparates (D-Hypothese) die interessante Theorie einer Doppelfunktion (DH-Hypothese) gegenüber und weist darauf hin, dass die gänzliche Abwesenheit des Sehpurpurs in der der Ora serrata zunächst anliegenden Netzhautzone doch gegen die D-Hypothese spricht, die annehmen müsste, dass hier die Stäbchen zur Untätigkeit verdammt seien während die DH-Hypothese annimmt, dass sie wie die ihnen benachbarten Zapfen ausgerüstet sind. Die Müllersche Theorie lässt sich in Kürze folgendermassen zusammenfassen: die Zapfentätigkeit übt einen hemmenden Einfluss auf die Sehpurpurbildung aus. Bei den Zapfenblinden fehlt diese Hemmung. Daher ihre Lichtscheu und ihre schnellere Dunkeladaptation. Der Stäbchenapparat besitzt nur die auf den Sehpurpurprozessen beruhende Dunkelfunktion. Bei Helladaptation ist die Stäbchensubstanz durch die Reduktion der Sehpurpurmenge vor zu grossen Lichtreizen geschützt und daher nicht erregbarer als bei Dunkeladaptation. Das Material, an welchem sich die farblose Erregung vollzieht, ist bei Stäbchen und Zapfen dasselbe. A. KIRSCHMANN (Leipzig).

782. LAURENS, H., Studies on the Relative Physiological Value of Spectral Lights. IV. The Visibility of Radiant Energy. *Amer. J. of Physiol.*, 1924, 67, 348-365.

"The visibility of radiation, or the relation between light and radiant energy, was determined for the cones at various absolute intensities; for the more central rods at low illumination; and for the peripheral rods at moderate illumination. The measurements were made by the photometric methods of direct comparison and of flicker." After correction for the selective transmission of the eye media, the average cone visibility curve for six subjects had a maximum at 555 $\mu\mu$. These curves were determined at intensities of 25, 10, 2.5 and 1 meter candles, employing a 2-degree field in every instance. At low colorless intensity the rod visibility curve is of the same general shape as the cone curve, although the former is steeper and narrower and its maximum appears at 510 $\mu\mu$ or 45 $\mu\mu$ nearer the blue end of spectrum. After correcting for the selective transmission of the ocular media, the visibility curve at 5 degrees from the center is very similar to the central curve. At 10 degrees the curve shows a shift toward the blue end of the spectrum, at 20 degrees it approximates the rod curve for colorless low illumination, and at 30 degrees it is practically identical with it. M. J. ZIGLER (Princeton).

783. JOHNSON, H. M., Speed, Accuracy and Constancy of Response to Visual Stimuli as Related to the Distribution of Brightnesses Over the Visual Field. *J. of Exper. Psychol.*, 1924, 7, 1-44.

On the horizontal diameter of a test-field having a practically constant brightness of 2.6 millilamberts two circles, with diameters subtending 24' at the eye of the observer, were projected by means of two miniature stereopticons. The removal of one or the other of these spots constituted the stimulus to reaction. The brightness of these circles was 0.09 millilambert, so that they constituted additions of 3.5 per cent to the brightness of the field on which they were projected. The remainder of the field of vision was filled by the interior surfaces of a polyhedral chamber painted "flat white" and illuminated from invisible sources. Their brightness was uniform with respect to each other but variable with respect to that of the test-field. The variable factor tested was the ratio of the surfaces (*Bs*) to the test-field (*Bf*). Experiments were made under six ratios of

B_s/B_f , ranging from 0.015 to 9.45. The observers were instructed to press the appropriate bulb as quickly as possible when one of the spots disappeared. "The results yielded three criteria: the time required for selective reaction, the dispersion of the measurements and the relative number of errors; or expressed inversely, speed, constancy and accuracy. By all criteria taken both separately and integrally the results showed that performance is progressively impaired by increases in the ratio B_s/B_f above unity and that rather small excesses of this ratio produced an effect which is important as to magnitude and reliability. The effect of reducing the ratio below unity is small though the reduction be great." C. C. PRATT (Harvard).

784. FRIEDENWALD, J. S., A new astigmatic chart. *Amer. J. of Ophthalmol.*, 1924, 7, 8-15.

New charts presented with a discussion of their theoretical and practical advantages. D. A. LAIRD (New Haven).

785. BANISTER, J. M., Practical Considerations in Connection with the Study of the Dynamics of the Ocular Muscles. *Amer. J. of Physiol. Optics*, 1924, 5, 3-21.

Discussion, with diagrams, of the action of each of the external eye muscles with a consideration of the central and peripheral nervous connections. The effects of prismatic lenses is considered. S. W. FERNBERGER (Pennsylvania).

786. VENABLE, W. M., Color and Luminosity. *Amer. J. of Physiol. Optics*, 1924, 5, 22-39.

An analysis of the relative visibility curves of the spectrum for normal and for color blindness. The variation of sensibility with intensity of radiation and the effect of fatigue on the visibility curves are also considered. The effects of light and dark adaptation on the elementary color curves is plotted. Illustrated with very illuminating charts. S. W. FERNBERGER (Pennsylvania).

787. MCFADDEN, F., Intermittent Visual Perception, or Suspenopsia. *Amer. J. of Physiol. Optics*, 1924, 5, 70-95.

Description of a test. In this condition there is an intermittency of vision of which the patient is very largely unconscious. "It is

usually of an alternating character, with a rather wide variety of intervals, and is concerned not alone with fixation and focalization, but even with the discernment of light." S. W. FERNBERGER (Pennsylvania).

788. WOLFF, J., A New Method for the Study and Determination of the Accommodative Convergence Requirements. *Amer. J. of Physiol. Optics*, 1924, 5, 96-108.

Description of a test based upon the use of crossed cylinders. S. W. FERNBERGER (Pennsylvania).

789. WEINBERG, M., and ALLEN, F., On the Critical Frequency of Pulsation of Tones. *Philos. Mag. and J. of Science*, 1924, 47, 50-62.

Steady sounds were interrupted at various rates until the separate interruptions fused into a just continuous sensation. This critical frequency of pulsation was found to have a direct relation to the intensity of the sounds interrupted. D. A. LAIRD (New Haven).

790. WEINBERG, M., and ALLEN, F., On the Effect of Aural Fatigue upon the Critical Frequency of Pulsation of Tones. *Philos. Mag. and J. of Science*, 1924, 47, 126-141.

The persistency of sound impressions appears to be greatly increased as a result of aural fatigue, this effect being greatest when the fatiguing tone is the same as used to determine the critical frequency of pulsation. This is interpreted in favor of the resonance hypothesis. D. A. LAIRD (New Haven).

791. WEINBERG, M., On the Effect of Fatiguing the Ear with Combinations of Two or More Tones. *Philos. Mag. and J. of Science*, 1924, 47, 141-150.

Results interpreted in favor of the resonance hypothesis and a physiological rather than a psychological origin of the difference tone. D. A. LAIRD (New Haven).

792. KANT, F., and HAHN, H., Sensitiveness of the Cornea. *Klinische Wochensch.*, 1924, 3, 112-113.

Tactile sense was found in the cornea with a limen near that for pain. D. A. LAIRD (New Haven).

4. FEELING AND EMOTION

793. STRATTON, G. M., The Color Red, and the Anger of Cattle. *Psychol. Rev.*, 1923, 30, 321-326.

The writer reports experiments upon the behavior of cattle, tame and wild, in the presence of red, green, black, and white strips of cloth. He presents also the results of a questionnaire sent to 66 California cattlemen. The study indicates that the color red does not arouse anger in cattle, and that brightness and motion are probably more effective than hue in exciting cattle. The common belief that bulls are excited by red is without an adequate basis. P. T. YOUNG (Illinois).

794. STRATTON, G. M., Cattle, and Excitement from Blood. *Psychol. Rev.*, 1923, 30, 380-388.

Sixty-three California cattlemen testify that the smell of blood causes excitement among cattle. The writer observed the reactions of tame cattle to horse's and cow's blood. Excitement and anger were not aroused. The blood caused curiosity and distrust or fear and sometimes mild liking. Probably the opinion of the cattlemen is based upon observations where factors other than the sight and smell of blood were involved. P. T. YOUNG (Illinois).

5. MOTOR PHENOMENA AND ACTION

795. HAMMETT, F. S., Studies of the Thyroid Apparatus. XVIII. The Differential Development of the Albino Rat from 100 to 150 Days of Age and the Influence of Thyro-parathyroidectomy and Parathyroidectomy Thereon. *Amer. J. of Physiol.*, 1923, 67, 29-47.

The differential development of normal sexually mature females and males between the ages of 100 and 150 days is similar but not identical. Upon removal of the thyroid apparatus disproportionate differential development appears in both sexes. The disturbances are similar but not identical in both sexes, the greater disturbances appearing in the females. The organs which are disturbed most are those concerned in the vegetative functions of the body. The lungs, heart, kidneys, spleen, liver, adrenals, pancreas and thymus not only cease to grow but actually lose weight. Parathyroidectomy also

causes disturbances in differential development which differs in the two sexes but is not of the same kind nor of the same degree as thyro-parathyroidectomy. M. J. ZIGLER (Princeton).

796. SCHNEIDER, E. C., and TRUESDELL, D., Daily Variations in Cardio-vascular Conditions and a Physical Efficiency Rating. *Amer. J. of Physiol.*, 1923, 67, 193-202.

Hourly determinations of fasting and normal living individuals for pulse rate in recumbency, standing and after exercise; heart rate, standing and reclining; time required for pulse rate to return to normal after exercise; systolic and diastolic arterial pressure, etc. Heart rate under normal living shows a general rise with the passing of the day when the subject stands or exercises, but the recumbency heart rate for the fasting subject remains quite constant throughout the day. Pulse rate is retarded at night until 3 A.M. after which it returns to normal rate. There was no very evident diurnal rhythm as to the difference between the standing and recumbent pulse rates. In fasting, systolic pressure shows a general rise with the passing of the day, but not when meals are taken. Diastolic pressure shows no daily rhythm but it decreased slightly at night in reclining. Systolic pressure rises more upon standing at night than during the daytime. M. J. ZIGLER (Princeton).

797. MARSTON, W. M., Sex Characteristics of Systolic Blood Pressure Behavior. *J. of Exper. Psychol.*, 1923, 6, 387-419.

This study made use of the technique which had been found successful in the investigation and detection of deception. The primary object was the examination of sex differences in blood pressure during mental states constituent of deception but not characteristic of it. The blood pressure was taken with a Tycos sphygmomanometer adjusted over the left brachial artery, and readings were made by the use of a bracelet stethoscope.

The results suggest definitely that female subjects have a much larger element of fear or anger in consciousness during quiet, reading, conversation, narration, and cross-examination than do male subjects. Men under such conditions experience major emotions only occasionally, and never as intensively as women. Emotions capable of producing major changes in blood pressure fluctuate with great rapidity in the female consciousness, while similar emotions in men tend to persist and build themselves up over a considerable

period of time. It would seem that a larger proportion of male nerve energy finds motor expression in movements of the skeletal muscles than is the case with the female subjects; while from the latter's preponderance of variability it seems clear that a greater proportion of energy expresses itself in visceral changes, largely through the autonomic fibers. Contrary to the usual notion it appears that anger is the emotion most characteristic of the women's reactions, while fear characterizes the more infrequent emotional activities of the men. "Under most ordinary conditions men are habitually unemotional, but possess a few large and fundamental groups of fear responses, closely inwrought with the major interests controlling their activities; and that they are subject to occasional, limited bursts of sex-emotional response, and anger; while women are habitually emotional, with their largest and deepest emotional response patterns composed largely of sex-emotion elements, frequently shifting to marked anger responses, and occasionally alternating with fear reactions when sex-emotion is definitively interrupted." C. C. PRATT (Harvard).

798. LARSON, J. A., The Cardio-Pneumo-Psychogram in Deception. *J. of Exper. Psychol.*, 1923, 6, 420-454.

The author presents twelve cases in some detail of individuals who were tested for deception by the technique of recording changes in blood pressure and respiration while questions bearing upon the alleged crime and capable of being answered by "yes" or "no" were directed to them. Among other changes the following were observed as the effect of deception: increase in blood pressure, decrease in blood pressure, increase in height and frequency, summative effects, incomplete inhibition, irregular fluctuations, etc. The cardio-pneumo-psychograms afford an excellent means for probing and detecting painful complexes. The analysis of the cardiac and respiratory curves offers more decisive evidence than that of the reaction times, and is more convincing than the study of the increase in systolic blood pressure alone. The records of those individuals who have been convicted of deception always differ from those of individuals in whom no deception is present. Pathological or physiological factors, or the effects of anger or fear in innocent suspects of an alleged crime need not vitiate the interpretations of the records provided that the proper precautions are used. The technique of administering the tests affords a practical and simple

means of detecting deception, and may be used effectively by any person of ordinary intelligence who has had experience in handling court and criminal cases. The interpretation of records, however, should be left to experts with scientific training who are well versed in psychopathology and abnormal behavior. With proper coöperation and the securing of thousands of cases the time might then be ripe for the introduction of a deception-test into procedures in court. C. C. PRATT (Harvard).

799. RICHTER, C. P., and WADA, J., A Method of Measuring Salivary Secretion in Human Beings. *J. of Lab. and Clin. Med.*, 1924, 9, 271-273.

A modification of Lashley's suction disc cup to give greater delicacy was used in an attempt to condition the secreting of the human parotid. It was not possible to demonstrate any conditioned secretion. D. A. LAIRD (New Haven).

800. KODAMA, S., Effect of Stimulation of the Sensory Nerves upon the Rate of Liberation of Epinephrine from the Suprarenal Glands. *Tohoku J. of Exper. Med.*, 1923, 4, 166-242.

Stimulation of sensory nerves by induction shock was followed by a distinct increase in the rate of output of epinephrine in cats, dogs, and rabbits. D. A. LAIRD (New Haven).

801. LYON, D. M., The Reaction to Adrenalin in Man. *Quart. J. of Med.*, 1923, 17, 19-36.

Subcutaneous injections of adrenalin in human subjects was followed by higher metabolism and stimulated the circulatory system. The changes were not uniform from subject to subject, some appearing especially sensitive to the injections. D. A. LAIRD (New Haven).

802. COBB, S., and FORBES, A., Electromyographic Studies of Muscular Fatigue in Man. *Amer. J. of Physiol.*, 1923, 65, 234-251.

"It may be argued . . . that fatigue takes place at the neuromuscular junction; although they might be explained by fatigue acting on the muscle fibers in a selective manner. . . ." D. A. LAIRD (New Haven).

803. LUPTON, H., An Analysis of the Effects of Speed on the Mechanical Efficiency of Human Muscular Movement. *J. of Physiol.*, 1923, 57, 337-349.

Optimum speed of leg in climbing is 1.3 seconds for a single movement. The maximum efficiency observed was 24 per cent. D. A. LAIRD (New Haven).

6. ATTENTION, MEMORY AND THOUGHT

804. FREILING, H., u. JAENSCH, E. R., Der Aufbau der räumlichen Wahrnehmungen. *Z. f. Psychol.*, 1923, 91, 321-342.

Als den für die Lokalisation ursprünglich massgebenden Faktor bezeichnet Jaensch die Aufmerksamkeitswanderungen. Den Beweis führt er durch experimentelle Trennung von Blickbewegung und Aufmerksamkeitswanderung. Die Versuchsperson rotiert, nachdem sie ein Anschauungsbild erzeugt hat, mit Hilfe eines Drehstuhls um ihre Körperachse, wobei die als Drehungsnystagmus bekannte Augenbewegung auftritt, während unabhängig von dieser Blickbewegung die Aufmerksamkeit stetig auf einem Kreise herumwandert. Nun zeigt sich, dass Anschauungsbilder in allen Fällen mit der Aufmerksamkeit wandern und in ihrem Erscheinungsort durch den Drehnystagmus unberührt bleiben. Auch die negativen Nachbilder scheinen nur in wenigen Fällen vom Drehnystagmus beeinflusst zu sein. Jaensch beschreibt die Aufmerksamkeitswanderung dann näher als einen dynamischen Akt, als ein optisches Verschieben und Transportieren der Sehdinge. Z. B. vermag er zu zeigen, dass sich Anschauungsbilder mit dem Ort der Aufmerksamkeit entfernen bzw. nähern, wobei Anschauungsbilder von leichteren Gegenständen eine grössere Beweglichkeit zeigen als die schwereren Gegenstände: Analoges gilt übrigens auch für Wahrnehmungsbilder, von denen bei primitiven optoiden Organismen Analoges früher gezeigt wurde. O. KROH (Tübingen).

805. MELROSE, J. A., The Organic Setting of the Problem of Thinking. *Psychol. Rev.*, 1923, 30, 370-380.

"The aim of this discussion is to locate thinking definitely in its place in the learning process and so in its correct setting in the total datum of psychology." The study of thinking is approached from the lower levels of behavior. Neural integrations at prethinking

levels give rise to class inference, conception and judgment. At the higher levels of "mental thinking" organic structures, similar to those involved in learning, are at the basis of free and rapid conscious manipulation. P. T. YOUNG (Illinois).

806. TOLMAN, E. C., The Effects of Underlearning upon Short- and Long-Time Retentions. *J. of Exper. Psychol.*, 1923, 6, 466-474.

The author describes a new form of memory-apparatus by means of which the *O* himself controls the exposure of the second member of pairs of nonsense syllables. As the *O* exposes the syllable, a mark is made on a piece of paper so that at the end of a series the *O* has a record of the number of repetitions required for learning. The writer then goes on to an account of an experiment in which the apparatus was used. In one set of experiments lists of nonsense syllables were learned and then relearned after an *interval of five minutes*; in the other set, the syllables were relearned after an *interval of one week*. By using the ratio of actual number of repetitions to total possible number of repetitions as an index of degree of learning, it was found that "underlearning" is correlated directly with degree of forgetting after five minutes, whereas it is not correlated at all with forgetting after a week. This phenomenon may be explained as due to the fact that "overlearning" increases perseveration more than it does association. C. C. PRATT (Harvard).

807. LASLETT, H. R., An Experiment on the Effects of Loss of Sleep. *J. of Exper. Psychol.*, 1924, 7, 45-58.

The purpose of this experiment was to study the effects of loss of sleep upon the ability to do mental work ranging from simple rote memory through substitution-tests to tests in analogies which required thought and judgment. The subjects went without sleep for a period of fifty hours, and were tested for about fifteen minutes each day during that period. The comparison of the results of control subjects with those of the subjects who went without sleep indicates that fifty consecutive hours of wakefulness are not enough to produce more than an indication of the trend of mental ability as affected by insomnia. Positive conclusions could only be drawn from tests made during a longer period of wakefulness. Extraneous influences, such as colds, sickness, worry, etc., have as much effect on the gross scores of the tests as short periods of sleeplessness.

Subjective estimates of the quality and amount of work done in the tests are valueless. C. C. PRATT (Harvard).

808. WELLS, F. L., Vocal and Manual Mechanisms in Choice Reactions. *J. of Exper. Psychol.*, 1924, 7, 59-66.

In these experiments a comparison was made between choice reactions made by speaking into a voice-key and reactions to similar situations made by pressing a telegraph-key with the right or left hand. An examination of the reaction times reveals the fact that vocal reactions require a longer time than manual reactions. A comparison of results under the two sets of conditions shows that the vocal times are about 130 per cent of the manual times. This difference holds true of simple choice reactions, but in reactions which involve higher mental activity the excess of vocal over manual time becomes much smaller or negative. It would therefore seem advisable to use verbal responses in the chronoscopic measurement of the more complex mental processes. C. C. PRATT (Harvard).

7. SOCIAL FUNCTIONS OF THE INDIVIDUAL

809. PARET, S., Konrad Fiedler. *Z. f. Aesthetik u. Allgem. Kunstwissensch.*, 1922, 3, 320-367.

Es wird eine ausführliche Analyse von Fiedlers Aesthetik gegeben, der aber selbst diese Bezeichnung ablehnt, da er nicht Schönheit, sondern Gesetzlichkeit suche. Nach Fiedler ist es eine eigentümliche geistige Synthesis, auf der das Objektsein des Kunstwerks als Kunstwerk beruht. Er will nicht in der psychologischen Analyse der Lust-Unlustgefühle das Wesen künstlerischer Tätigkeit finden, vielmehr dieses Gebiet der Lust und Unlust überhaupt von der in der künstlerischen Tätigkeit sich auswirkenden Funktion des Bewusstseins abtrennen. E. WUNDT (Grossbothen).

810. WOHLFARTH, P., Ueber den ästhetischen Genuss. *Z. f. Aesthetik u. Allgem. Kunstwissensch.*, 1922, 3, 391-398.

Aesthetischer Genuss und künstlerisches Schaffen werden auf dieselbe Quelle zurückgeführt: auf das Schöpfertum, das der Künstler als Gnade oder Schicksal erlebt, und der Geniessende nachempfindet. Verstandesmässige Erkenntnis hat mit dem künstlerischen Genuss nichts zu tun, ist aber mit ihm vereinbar und

kann ihn erhöhen. Das Kunstwerk hat auch keinen objektiven Wert, der für Jeden Geltung hat; nur so ist die Aenderung des Zeitgeschmacks zu verstehen. Vor allem wird der ästhetische Genuss als aktive Funktion des menschlichen Geistes bezeichnet. E. WUNDT (Grossbothen).

811. MARCUS, H., Landschaft und Seele. *Z. f. Aesthetik u. Allgem. Kunstwissensch.*, 1922, 2, 201–209.

Landschaft und Seele werden als Spiegelbilder einander gegenübergestellt: Auge und Geist sind analog gebaut mit Blickpunkt und Blickfeld; wie die Landschaft ist die Seele perspektivisch. So wird die Analogie noch an verschiedenen Punkten durchgeführt und schliesslich sinnliches Sehverfahren und geistiges Gedankenverfahren gleichgesetzt. E. WUNDT (Grossbothen).

812. BAEUMLER, A., Benedetto Croce und die Aesthetik. *Z. f. Aesthetik u. Allgem. Kunstwissensch.*, 1922, 3, 308–319.

Der Aufsatz knüpft an das Werk Benedetto Croces "*Nuovi saggi di Estetica*," 1920, an. Für Croce hat die Kunst einen alogischen Charakter, er nennt alle Kunst Intuition und ist bemüht, diesen Begriff von dem der Empfindung zu lösen. Es werden die verschiedenen Wege gezeigt, auf denen er die Intuition zu bestimmen sucht. Ein Grundirrtum Croces ist sein Irrationalismus: er leugnet die Möglichkeit von Gesetzen in den einzelnen Künsten. Zum Vergleich wird Hegels Esthetik herangezogen, da Croce eine gewisse Grundeinstellung des Denkens von Hegel übernommen habe, soweit dies dem Südländer möglich sei. Auch auf seine Stellung zu Vico wird eingegangen. Am Schluss werden die Nachteile und Vorzüge von Croces historisch-nationaler Stellung beleuchtet. E. WUNDT (Grossbothen).

813. MIES, P., Goethes Harfenspielergesang "Wer sich der Einsamkeit ergibt" in den Kompositionen Schuberts, Schumanns und H. Wolfs. Eine vergleichende Analyse. *Z. f. Aesthetik u. Allgem. Kunstwissensch.*, 1922, 3, 383–390.

Nach Ansicht des Verf.'s gibt Hugo Wolf die vollendetste Wiedergabe des Gedichts, was er durch Gegenüberstellung verschiedener Beispiele ausführlich begründet. Dabei wird besonders darauf hingewiesen, dass der Sinnakzent der Entstehungszeit nach

mehr und mehr zu seinem Rechte kommt. Auch in der Rhythmik ergeben sich interessante Verschiedenheiten bei den Romantikern und Modernen gegenüber den Klassikern. E. WUNDT (Grossbothen).

814. UTITZ, E., Das Problem einer allgemeinen Kunstwissenschaft. *Z. f. Aesthetik u. Allgem. Kunstwissenschaft*, 1922, 4, 433-451.

Es wird eine neue Problematik aufgestellt, bei der nicht das einfach Schöne als Grundlage der Kunstwissenschaft gelten darf, sondern ganz unabhängig davon nach dem Wesen der Kunst gefragt werden soll. Alle Aufgaben der Kunst werden vom Problem der Gestaltung oder Formung erzeugt. Dieses Problem hat vor allem Konrad Fiedler klar herausgearbeitet. Seine Theorie soll vereinigt werden mit der Dessoirs und Spitzers, die die Kunst mit allen geistigen Mächten untrennbar verknüpfen wollen. Es werden dann die Beziehungen der Kunst zu nationalen, ethischen und religiösen Werten untersucht: sie schafft diese nicht selbst, verleiht ihnen aber eine neue Wertlage. So ist die Kunst auf kein Stoffgebiet beschränkt, die ganze Welt ist ihr aufgegeben. Immer wieder wird dabei auf Kants "anhängende" Schönheit zurückgegriffen. Als höchste Aufgabe der Kunstwissenschaft wird eine auf diesen Grundlagen sich aufbauende Kunstphilosophie hingestellt. E. WUNDT (Grossbothen).

815. URRIES Y AZARA, J. J., DE, Aesthetische Sondernormen der Kunst. *Z. f. Aesthetik u. Allgem. Kunstwissenschaft*, 1922, 4, 452-490.

Der Verf. stellt Normen für die Kunst von dreierlei Art auf: für das Kunschaffen, das Kunstbetrachten, das Kunstwerk. Erste Norm für den Betrachter ist das Bewusstsein, dass die Kunst Menschenwerk ist, woraus für den Schaffenden die Normen der Rationalität und der Freiheit entspringen. Dabei wird auf die Inspiration und ihre Verbindung mit der Ueberlegung und auf das Wesen der Genialität eingegangen. Als Norm des Kunstwerks wird in erster Linie die Ordnung bezeichnet, die wieder in verschiedenen Formen zum Ausdruck kommt: als Regelmässigkeit, Harmonie, Rhythmus usw. Zweite Norm für das Kunstwerk ist der Fortschritt, der für die Kunstentwicklung im Grossen wie für den einzelnen Künstler gilt. Eine weitere Norm für den Schaffenden ist die Aufrichtigkeit, der beim Beschauer die Wahrnehmung einer Persönlichkeit parallel geht, beiden entspricht im Kunstwerk der

Stil. Ein Schema am Schluss des Aufsatzes verdeutlicht die Beziehungen dieser Normen zu einander. E. WUNDT (Grossbothen).

816. SCHMARSOW, A., und EHLOTZKY, F., Die reine Form in der Ornamentik aller Künste. *Z. f. Aesthetik u. Allgem. Kunstwissensch.*, 1922, 4, 491–500, und 1923, 5, 1–17.

Schmarsow wendet die Gesetze der Ornamentik, d.h. der reinen Form, auf alle Künste, die zeitlichen wie die räumlichen, an. Er geht dabei von der alkäischen Strophe aus, von der er eine graphische Darstellung gibt, an die anknüpfend Ehlotzky ein Linienornament der Strophe herstellt. Im zweiten Aufsatz überträgt Schmarsow das im metrischen Schema der alkäischen Strophe Gefundene auf die Mimik des Menschen, worunter er die Ausdrucksbewegungen des ganzen Körpers als Einheit versteht. Er unterscheidet dabei die Ausdrucksbewegungen von den Zweckbewegungen, welche dem Willen oder dem Instinkt unterliegen, während alle wahren Ausdrucksbewegungen unwillkürlich sind. In ihnen zeigt sich vor allem die Verschiedenheit der beiden Körperhälften, woraus der natürliche Rhythmus hergeleitet wird, der sich dann durch seine Wiederholung ins Bewusstsein erhebt. Durch Eingriff des Willens und Verbindung mit Zweckbewegungen ist die grösste Steigerung der Ausdrucksbewegungen möglich. Die Uebertragung der Inhalte der Mimik vom Schaffenden auf den Empfangenden setzt eine Uebereinstimmung des natürlichen Rhythmus beider voraus. Auf der Grundlage des natürlichen bildet sich der künstlerische Rhythmus aus. Werden dabei in der Mimik wichtige Einzelwerte besonders ausgezeichnet, so entsteht das Ornament. Die Ornamentik des mimischen Kunstwerks wird durch Analogie mit dem Ornament der graphischen Künste zu verdeutlichen gesucht und dabei auf den Tanz als rhythmische Körperbewegung eingegangen. Ehlotzky sucht dann die reine Form des Ornaments noch an einem Beispiele anschaulich zu machen. E. WUNDT (Grossbothen).

817. SCHMARSOW, A., Zur Lehre vom Ornament. *Z. f. Aesthetik u. Allgem. Kunstwissensch.*, 1922, 4, 511–526.

Schmarsow knüpft an einen Aufsatz Adama van Scheltemas an, der die Entstehung des Ornaments als Prähistoriker zu ergründen versucht. Das erste Ornament soll in der neolithischen Periode als Niederschlag der Ausdrucksbewegungen des Bildners selbst entstanden sein, während sich später in der Bronzezeit das Ornament

von seinem Träger frei macht. Als höhere Klasse entsteht die Tierornamentik, deren verschiedene Phasen in Nordgermanien geschildert werden. Zur Aufhellung der Gesetze der Ornamentik wird gefordert, die Musikwissenschaft, Rhythmik und Metrik heranzuziehen, woraus sich gemeinsame Grundgesetze der Formbildung in allen Künsten ergeben werden. E. WUNDT (Grossbothen).

818. HAGELBERG, L., Hofmannsthal und die Antike. *Z. f. Aesthetik u. Allgem. Kunstwissenschaft.*, 1923, 1, 18-62.

Hofmannsthals Gestaltung griechischer Stoffe wird in Gegensatz gebracht zu der des Sophokles, wobei es sich ergibt, dass bei Hofmannsthal als dem typischen Vertreter des Impressionismus alles verfließt und schwankt gegenüber den scharfen und klaren Umrissen der Antike. An die Stelle der künstlerischen Gesetze des Sophokles setzt Hofmannsthal die Psychologie, an die Stelle der künstlerischen Einheit die naturwahre Vielheit; wo Sophokles nach logischen Richtlinien schafft, tut es Hofmannsthal nach musikalischen. Dies wird am Individualitätsbegriff, am Weltgefühl und an der Gestaltung näher begründet. Als neueste deutsche Vertreter des Griechentums werden George und Werfel genannt. Ersterer ist vor allem durch Formung und Mass Hofmannsthal entgegengesetzt, während Werfel eine Idee, ein Gesetz in die griechische Welt hineinträgt, das bei Hofmannsthal völlig fehlt. E. WUNDT (Grossbothen).

819. DORNER, A., Die Erkenntnis des Kunstwollens durch die Kunstgeschichte. *Z. f. Aesthetik u. Allgem. Kunstwissenschaft.*, 1922, 2, 216-222.

Der Verf. bezieht sich hauptsächlich auf die Arbeit Panofskys "Der Begriff des Kunstwollens," welcher die bisherigen Auffassungen des Kunstwollens, die künstlerpsychologische, die Zeitpsychologische und die apperzeptionspsychologische, ablehnt. Doch wird ausgeführt, dass auch die von Panofsky a priori deduzierten, ebenso wie die kunstgeschichtlichen Grundbegriffe Wölfflins, welcher geschichtliche und theoretische Betrachtungsweise vermengt, nicht anwendbar sind, da beide als mehr oder minder psychologistische Erklärungsweisen keine objektive historische Wirklichkeit ergeben. Als neue Aufgaben der Kunstwissenschaft werden teils eine aufbauende, teils eine zusammenfassende aufgestellt. E. WUNDT (Grossbothen).

820. KLATT, G., Ueber Landschaftsschilderung. *Z. f. Aesthetik und Allgem. Kunstwissenschaft.*, 1921, 1, 18-34.

Der Verf. sieht die Hauptgefahr der Landschaftsschilderung in dem Gebrauch abgegriffener und falscher Bilder, durch die der Schilderer glaubt, die Natur sich und seinen Lesern nahe zu bringen, sie aber zu sich herabzieht, sie vermenschlicht. Es wird untersucht, woher diese Neigung, der Natur den eigenen Stempel aufzudrücken, kommt und dabei auf die Belebung der Natur in der Poesie der Naturvölker, der Griechen und Germanen hingewiesen, die jetzt nicht mehr angängig sei, da uns der naive Sinn dafür fehlt. Durch Zurückstellen des eigenen Ich gegenüber der Natur wird der Naturschilderer schliesslich zu einer höheren Form der Vermenschlichung geführt, eine Entwicklung, wie sie der Mensch auch in seinem inneren Werden durchläuft. E. WUNDT (Grossbothen).

821. STERN, L., Wilhelm Meisters Lehrjahre und Jean Pauls Titan. *Z. f. Aesthetik und Allgem. Kunstwissenschaft.*, 1921, 1, 35-68.

Beide Werke werden als Bildungsromane bezeichnet, dabei aber auf den verschiedenen Sinn, den der Begriff Bildung bei Goethe und bei Jean Paul hat, hingewiesen. Bei der Betrachtung der Handlung erklärt die Verf. die Verschiedenheit des Reagierens der Helden auf die Umwelt aus dem Verhältnis der Dichter zur Gesellschaft und aus ihrer Stellung gegenüber der Landschaft. Neben einer auffallenden Uebereinstimmung einzelner Charaktere in beiden Romanen besteht ein grosser Unterschied in der Charakterdarstellung: Goethe steht seinen Personen objektiv gegenüber, Jean Paul nimmt den innigsten Anteil an ihnen. Schliesslich wird ausgeführt, dass Goethe und Jean Paul ein verschiedenes Formprinzip haben, das auf den von Schiller aufgestellten Unterschied des plastischen und des musikalischen Dichters zurückgeführt wird. Goethe war als Dichter durch gegenständliches Schauen ein Weiser, Jean Paul polyhistorischer Denker, Visionär und Grübler. E. WUNDT (Grossbothen).

822. PIORKOWSKI, C., Aufgaben der Psychotechnik im Arbeitsprozess. *Blätter des Roten Kreuzes*, 1923, 2.

In dem vorliegenden Aufsatz geht Piorkowski von dem wiederholt von ihm vertretenen Gedanken aus: Die Psychotechnik besteht aus 3 Teilen: (1) Auslese der für einen bestimmten Zweck im industriellen Arbeitsprozess geeigneten Arbeitskräfte, (2) System-

atisches Anlernen dieser Kräfte, (3) Rationalisierung der Arbeitsmittel. Etwas zu leicht macht es sich P. mit der Behauptung, dass in der Psychotechnik die Interessen von Arbeitgebern und Arbeitnehmern sich ohne weiteres decken. Der Aufsatz ist zur ersten Orientierung für Laien bestimmt und ist wohl geeignet, ihnen eine Vorstellung von den Absichten der Psychotechnik zu geben. H. SACHS (Berlin).

823. FREYD, M., Measurement in Vocational Selection. *J. Person. Res.*, 1923, 2, 215-249, 268-284, 377-385.

Outlines a complete procedure for research in developing, evaluating, and installing measurement methods in vocational selection. Technique and determination of reliability, based on the author's own experience, as well as on a wealth of knowledge contributed to the literature of research in vocational selection, are particularly stressed. The scope of use for the material as presented is stated briefly in the introduction as follows: "This outline is concerned directly with vocational selection, particularly with the scientific methods which may here be employed, and only indirectly with vocational guidance. The results of studies carried on with the technique here outlined will be of value not only to the company in which the experiment is conducted and to its applicants, but also to those who give vocational and educational guidance, since these researches will contribute to the materials for measuring vocational aptitude." A complete bibliography is appended. E. G. STOV (Carnegie).

824. FLINN, F. B., Industrial Aspects of Human Fatigue. *J. Person. Res.*, 1923, 2, 285-293.

Reviews the present status of the problem of industrial fatigue as revealed by recent literature and by investigations conducted during the past few years by the author for the Public Health Service in a number of industrial establishments and in the laboratories of the College of Physicians and Surgeons of Columbia University. E. G. STOV (Carnegie).

825. WILSON, D. R., The Need for International Co-operation in Industrial Psychology and Physiology. *J. Nat. Inst. Indus. Psychol.*, 1923, 1, 328-332.

Shows need for a *liaison* between the different organizations in different countries engaged in similar fields of work, (a) in order to

prevent needless overlap and duplications of research, (b) in order to compare the results obtained in different countries under different conditions, (c) in order to study the effect of extreme types and conditions which are unobtainable in any one country. Suggests International Labor Office as most suitable agency for such coördination. As a beginning International Labor Office could distribute summaries of reports on activities prevalent in the different countries furnished by accredited correspondents to existing agencies. Later it might be desirable to call a conference of correspondents to discuss the setting up of some permanent machinery for collecting and distributing the results of work done on an international scale. M. S. VITELES (Pennsylvania).

826. STEPHENSON, A., An Investigation in the Textile Industry. *J. Nat. Inst. Indust. Psychol.*, 1923, 1, 325-327.

A number of changes in conditions and methods of work in the textile industry under consideration appear to be successful. Although, except in the case of one or two processes, it was impossible to determine quantitatively the results of the improved methods, the appreciation of the workers, backed by the opinion of the managers and foremen, combined with the conformity of the new principles to accepted scientific opinion, may be accepted as a gauge of the success of the investigation. The changes included improvements in illumination, principally to avoid *illusions* of defect on the part of inspectors late in the afternoon, improvements in machine design to make unnecessary an uncomfortable position, the demonstration of the superiority of a treadle machine process over a hand and a hand machine process, and the increase of pay for inspectors who, it was found, actually worked 50 per cent longer than machinists who had been receiving equal pay. M. S. VITELES (Pennsylvania).

827. GAW, F., The Use of Performance Tests and Mechanical Tests in Vocational Guidance. *J. Nat. Inst. Indust. Psychol.*, 1923, 1, 333-337.

Recommends the use of performance tests in place of tests involving language for the measurement of general intelligence, particularly in vocational guidance. The environment (poor or well-to-do) in which a child is brought up affects his success in linguistic tests more than in performance tests of intelligence. A recent study of English canal-boat children showed this very strikingly. Some children

(verbalists), with less intelligence, express themselves better in conversation and in tests involving language than others with more intelligence. Moreover, a survey of the work records of 1,000 children who had attended London elementary schools showed that the majority of occupations taken up by the majority of children demand the intelligent handling of objects, which is involved in many performance tests, rather than the linguistic ability involved in other intelligence tests. Correlations obtained between performance tests and other estimates of intelligence of 46 elementary school children and 27 canal-boat children show definitely that the performance tests measure intelligence. In addition to performance tests, tests measuring mechanical ability, a special ability which is independent of general intelligence, can be used in vocational guidance. M. S. VITELFS (Pennsylvania).

828. MYERS, C. S., *The Human Side of Industry*. *J. Nat. Inst. Indust. Psychol.*, 1923, 1, 309-312.

Discusses the importance of the new services rendered by industrial psychology, which aims at impartially and scientifically increasing industrial efficiency by eliminating industrial misfits and mistaken, harmful conditions of work. Contrasts the methods and point of view of this science, which approaches the problems of industrial inefficiency from the *standpoint of the worker* with the old point of view—that which emphasized merely *greater output*. The work of the Industrial Fatigue Research Board and of the National Institute of Industrial Psychology is briefly discussed. M. S. VITELES (Pennsylvania).

829. TAGG, M., *The "Make-up" of the Engineering Worker*. *J. Nat. Inst. Indust. Psychol.*, 1923, 1, 313-324.

Describes the qualities of personality believed to be essential in engineering (metal trade) workers. Personality consists of (1) general intelligence, (2) specific abilities—innate or acquired, (3) temperament, (4) physical factors. Most occupations in the engineering industry require workers of average or above-average intelligence. This judgment represents the opinion of the writer, and is not based upon a large scale examination of engineering workers by means of general intelligence tests. The specific abilities essential for success, determined by an observation of the worker on the job and by introspection after the performance of the job by the investi-

gator, include (a) perception of form and space (tri-dimensional), (b) memory of form size, etc., (c) motor ability, (d) attention, (e) creative imagination, (f) accuracy of detail. Temperamental factors play as great a part in success in industrial life as does ability. Although no reliable tests for these traits have been found, an analysis of those which are necessary for success and, by observation, a rough estimate of the type of man (temperamentally) who can succeed best in a definite job can be made. The temperamental requirements for different types of jobs in the metal working trades are given. M. S. VITELES (Pennsylvania).

830. POTTER, H. W., Psychology as a Factor in the Practice of Medicine. *N. Y. Med. J.*, 1923, 118, 414-416.

The symptoms, disease, or the patient may be treated. The neglect of the last is held responsible for the development of cults of a pseudomedical nature. If physicians were better able to utilize psychology this situation might be altered. D. A. LAIRD (New Haven).

831. STRAGNELL, G., Psychology in Medicine. *Va. Med. Monthly*, 1923, 50, 538-543.

Cases reported to illustrate the unsettled status of physiological vs. psychological causation of some clinical pictures. D. A. LAIRD (New Haven).

832. SIMPSON, R. E., Defective Vision and Industrial Accidents. *Amer. J. of Physiol. Optics*, 1924, 5, 48-56.

Industrial accidents are due to (1) improper lighting at the place of the accident or (2) defective eyesight due to improper lighting in past experience. The eye has much greater demands put upon it to-day than it had in primitive culture. S. W. FERNBERGER (Pennsylvania).

833. FRYER, D., Psychology and Industry in France and Great Britain. *J. Person. Res.*, 1924, 2, 396-402.

Describes present day differences in attitude between French and British toward the development of scientific technique in personnel practice. The inertia existing in this science in France may be attributed to the conservatism of the employer and the individualistic

attitude of the worker. In Great Britain, research in industrial psychology and physiology has been promoted through the National Institute of Industrial Psychology. This organization has succeeded in centralizing effort to a large extent. "England is now in a stage of development in the practical use of psychology in business approximating that of the United States the year following the signing of the armistice. She is not only willing but anxious to learn the methods in use in America, and by her somewhat slower growth has avoided some of the pitfalls into which America rushed, and which France, by her conservatism, has never approached." E. G. STOV (Carnegie).

834. BREZINA, E., and LEBZELTER, V., The Dimensions of the Hand in Different Occupations. *Arch. f. Hygiene*, 1923, 92, 53-59.

Manual work found to have marked effect on breadth and thickness of hand, but not on length. Manual workers do better than clerical and brain workers in dynamometer tests; a marked falling off in the dynamometer tests in all occupations after age forty. D. A. LAIRD (New Haven).

835. DERSHIMER, F. W., Further Studies in the Mental Hygiene of Industry: Malingering. *J. of Indust. Hygiene*, 1923, 5, 299-304. D. A. LAIRD (New Haven).

836. CANTON, E. J., The Psychology of Occupational Therapy. *Arch. of Occup. Therapy*, 1923, 2, 347-358. D. A. LAIRD (New Haven).

8. SPECIAL MENTAL CONDITIONS

837. LEE, M. A. M., and KLEITMAN, N., Studies in the Physiology of Sleep: II. Attempts to Demonstrate Functional Changes in the Nervous System During Experimental Insomnia. *Amer. J. of Physiol.*, 1923, 67, 141-152.

A single subject submitted to a number of periods of sleeplessness varying from 60 to 114 hours in length and to a number of experimental tests. The knee-jerk reflex is unaffected by sleeplessness but disappears promptly with onset of sleep. The pupillary reflex remains practically unaltered during insomnia, although the diameter of the pupil is much reduced as compared

with the normal in dim illumination. Insomnia produces no changes in the sensory threshold for faradic stimulation, reaction to visual and auditory stimuli, naming opposites, and mental multiplication. Insomnia does not impair the ability to name colors, provided the number does not exceed about 100, but much more time is required and many more errors are totaled when the subject is asked to name 1,200 colors in succession. The subject showed marked inability to maintain his equilibrium, as tested by Romberg's graphic method. M. J. ZIGLER (Princeton).

838. HOLLINGWORTH, H. L., The Effects of Alcohol. *J. Abnorm. Psychol. and Soc. Psychol.*, 1923, 18, 204-237.

This investigation not only furnishes excellent supplementary evidence to recent findings on the general effects of alcohol but it serves as a pioneer study of its effects in various, carefully measured amounts, of its effects on complicated, "psychological" reactions as distinguished from more fixed, neuromuscular reactions, of the problem of "idiosyncrasy" or of individual differences in susceptibility, and finally of the comparative effects of alcohol and caffeine on the same array of processes. "In all of the mental and motor tests here used the effect of alcohol is to reduce the score. The hand is less steady, motor coördinations less accurate and rapid, rate of tapping is reduced, the processes of color naming, naming opposites, and adding are slowed down, and the rate of substitution learning is less rapid. In pulse rate, which must be considered separately from these mental and motor tests, the effect of alcohol is to produce a positive acceleration. In all cases the effect varies directly with the size of the dose. In the association processes the effect of the smaller doses here employed has disappeared by the end of the experimental day, three hours after the conclusion of the drinking period. In the case of the motor processes (tapping, steadiness, coördination, and pulse rate, recovery is slower, and even in the case of the smaller doses of alcohol there is usually inferior performance or change at the end of the day." M. C. CHILD (Boston Psychopathic Hospital).

839. TAIT, W. D., Motor Functions in Dreams. *J. of Abnorm. Psychol. and Soc. Psychol.*, 1923, 18, 244-245.

Report of a dream, caught and recorded immediately after waking, in which the mechanism, though explicable in Freudian terms as

repression, fits more neatly into Watson's mechanistic theory of inhibited motor adjustments. The writer comments that in this case introspection supports behaviorism! M. S. CHILD (Boston Psychopathic Hospital).

840. TANNENBAUM, S. A., Commonplace Mistakes in Psychic Functioning. *J. of Abnorm. Psychol. and Soc. Psychol.*, 1923, 18, 246-257.

Careful scrutiny of several rather complicated "lapses" gives undeniable weight to the writer's contention that orthodox psychology is thoroughly adequate to explain such phenomena without the assistance of Freudian hypotheses. The examples selected for analysis do not in his opinion involve unknown or unknowable mental processes, are not the manifestations of repressed desires, are not "unconscious" betrayals of the individual's secret self, and furnish not the slightest basis on which to construct a psychology of the unconscious. M. S. CHILD (Boston Psychopathic Hospital).

841. CORIAT, I. H., Suggestion as a Form of Medical Magic. *J. of Abnorm. Psychol. and Soc. Psychol.*, 1923, 18, 258-268.

A tracing out of the psychical and historical relationship existing between modern suggestion and primitive magic. "The tendency to react to suggestion has at all times and under varying social conditions been a fundamental fact in the life of mankind. This is easily understandable if one accepts the conception that in all suggestion there are two aspects which are mankind's heritage from the time when he first appeared upon this earth, namely, on the part of the operator his narcissistic omnipotence and on the part of the subject a blind belief in the infallibility of the operator, both of which aspects are found in magic. For what was magic but the aspects of suggestion in undeveloped minds, and what is suggestion but a belief in magic by those who have not become entirely emancipated from this primitive and undirected thinking? In one case the primitive thinking takes the form of magic incantations, words or wishes, in the other case, the more sophisticated thinking still preserves the earlier belief in magic but disguised under the more scientific term of 'suggestive therapeutics' . . . Suggestion thus becomes a form of omnipotence of thought, a sort of magic formula emanating from the unconscious and is as closely linked up with primitive thinking as the taboos are with the obsessional neuroses or the fear of certain animals, the

so-called phobias, is psychically connected with the traits of animistic totemism." M. S. CHILD (Boston Psychopathic Hospital).

842. POLON, A., General Theory of the Neuroses. Part III. Classification. *N. Y. Med. J.*, 1923, 118, 207-212.

"Does not aim at the delineation of morphological entities, but rather seeks to indicate the direction in which the libido impulses operate, and the developmental levels from which they issue." D. A. LAIRD (New Haven).

843. MITCHELL, E. G., The Physiologically Diagnostic Dream. *N. Y. Med. J.*, 1923, 118, 416-417.

Cases are reported in which dreams seemed to have origin in physiological alterations due to approaching disease, the symbolism being secondary to this. D. A. LAIRD (New Haven).

844. HODGES, J. A., A Brief Analysis of Coué's Method and Its Fallacies. *Va. Med. Monthly*, 1923, 50, 511-514.

Internal inconsistencies in Couéism indicated. D. A. LAIRD (New Haven).

845. STERN, A., The Psychoanalyst and His Therapeutic Objective. *Amer. Med.*, 1923, 29, 839-848.

A psychic synthesis by which repressed impulses are rendered again available for constructive purposes is the therapeutic aim of psychoanalysis. D. A. LAIRD (New Haven).

846. LEE, M. A. M., and KLEITMAN, N., Studies in the Physiology of Sleep. II. Attempts to Determine Functional Changes in the Nervous System During Experimental Insomnia. *Amer. J. of Physiol.*, 1923, 67, 141-152.

The knee jerk, pupillary reflex, Martin threshold, and steadiness show no changes after loss of two nights' sleep. Performance in short mental tests appears not to be altered by the insomnia, but when a single test was lengthened to fifteen minutes the performance was noticeably poorer. D. A. LAIRD (New Haven).

847. WHITE, W. A., Psychoanalysis and Vocational Guidance. *Arch. of Occup. Therapy*, 1923, 2, 253-275.

Failure and success is to be thought of in terms of the proportion

of the individual's desires that are satisfied by his occupation, which may be selected from identification with or differentiation from father, from sublimation, or as a protection against unconscious tendencies. D. A. LAIRD (New Haven).

9. NERVOUS AND MENTAL DISORDERS

848. STORCH, A., Das archaisch-primitive Erleben und Denken der Schizophrenen. *Monog. a. d. Gesamtgebiete d. Neurol. u. Psychiat.*, 1922, Heft. 32.

Die Untersuchungen sind getragen von dem Bestreben, in die Erlebnis- und Denkweise der Schizophrenen einzudringen. Der Ausgangspunkt ist also ein phänomenologischer. Die seelischen Mechanismen der Primitiven, deren Gleichartigkeit mit denen der Schizophrenen aufgedeckt wird, sollen Verständnis- und Einfühlungsmöglichkeiten in die schizophrene Welt gewähren.

Die Begriffsbildung der Schizophrenen ist vorwiegend an den anschaulich und affektiv wirksamen Eindruck gebunden; und auch der Primitive denkt sinnlich-bildhaft. Der beiden Denkweisen eigene komplexhafte Charakter ermöglicht Verschiebungen im Gebiete des Handelns. Die Grenzverwischung zwischen Ich und Umwelt führt in der primitiven und schizophrenen Welt zu Zerfall oder Vervielfachung der eigenen Person und Verschmelzung der gegenständlichen mit der Ich-Sphäre. Im schizophrenen Seelenleben finden sich die magischen Denkrichtungen der Primitiven wieder; die magische Bedeutung der Körpervorgänge lebt wieder auf. Vorstellungen von Kraftanziehung und sexuellen Substanzverlust treffen wir bei Primitiven und Schizophrenen. Gewisse Bewegungsformen der Schizophrenen sind nichts Anderes als zauberische Abwehrbewegungen gegen die feindlichen Einflüsse von aussen. Magische Geschlechtsumwandlungen von einem Lebenszustand in einen anderen erlebt der Primitive und Schizophrene, bei dem die Einheitlichkeit des Trieblebens zerfällt. Andererseits kommt es auch beim Schizophrenen auf dem Boden der Selbsterhöhungstendenzen zu einer mystischen Einigung mit anderen Personen und Gottheiten. Dieses Einigungserlebnis kehrt in primitiven mystischen Religionen und Riten wieder. In der kosmischen Identifizierung des Ich mit dem Weltganzen begegnen sich Primitive und Schizophrene. Diese kosmische Einigung mit dem All vollzieht sich beim Schizophrenen häufig in der Gestalt eines

archaischen Wiedergeburtserlebnisses. Schliesslich besteht innige Verwandtschaft zwischen ekstatischen Versenkungszuständen archaisch-primitiver Art und katatonen Versunkenheit. Trotz all dieser engen Beziehungen zwischen primitiver und schizophrener Welt dürfe der Schizophräne doch keineswegs etwa nur als ein völlig in die primitive Gefühls- und Gedankenwelt Zurückgesunkener angesehen werden. Insofern seien dieser Art der entwicklungspsychologischen Betrachtung Grenzen gesetzt. W. RIESE (Frankfurt a/M.).

849. HOOKER, D. R., Physiological Effects of Air Concussion. *Amer. J. of Physiol.*, 1924, 67, 219-274.

The indeterminate meaning of the term "shell shock" prompted the National Research Council to make a grant by which the nature of this condition might be experimentally determined. The investigator deplores the looseness of usage of the term shock, and distinguishes between *primary* shock—a condition of low arterial pressure unassociated with hemorrhage and exposure—and *secondary* shock—where injuries are produced by the concussion so that the shock develops secondary to these trauma. This article brings together extensive observations of the sequence of events which lead to death in primary shock. The author's criterion of the kind of shock here investigated is, "The sudden development of an arterial blood pressure of approximately half normal which comes on as the result of some 'shock,' in this case as the result of arterial concussion." It is conceded that the fall in blood pressure is but one of a number of symptoms of this condition; however, it is deemed best to specify the condition by a single, easily demonstrable reaction.

The observations were made mostly upon frogs and dogs—a few cats and rabbits were also included, upon which shock was induced. The animals were observed both in unanesthetized and anesthetized conditions. It was determined that the positive, and not the negative phase of atmospheric pressure as has been suggested, constitutes the causal factor of the condition of shock.

Experiments with high explosives, in which injuries are produced in the lungs, fail to produce typical shock even when the pulmonary involvement is of the most extreme degree. The physiological condition of shock was best observed in anesthetized dogs. In addition to low arterial pressure, there is a low venous pressure which indicates a loss of tonus in the veins. Immediately after shock the carbon

dioxide capacity of the blood is normal; however, the carbon dioxide capacity is substantially decreased with the persistence of low arterial pressure. This is cited as evidence that the "acidosis" theory cannot apply to concussion shock. The blood is not hemolyzed and blood catalase appears not to be affected. The functional activity of the medulla appears wholly normal; vasomotor, cardiomotor and respiratory reflexes were readily elicited. Spinal reflexes, swallowing and eyelid reflexes also appeared normal. Concussion pressure adequate to produce shock produces extensive lacerations of the tympanic membranes of the ears. In all the nervous tissues thus far studied, there is no evidence of hemorrhage, gross or petechial. M. J. ZIGLER (Princeton).

850. KOPELOFF, N., and KIRBY, G., Focal Infection and Mental Disease. *Amer. J. of Psychiat.*, 1923, 3, 149-197.

A very thorough investigation of the causal relation of focal infection to functional psychoses was undertaken to test the validity of the claimed increase in the number of recoveries from the elimination of focal infection. Complete studies were made on a small group with the following results as drawn from the author's summary: (1) The removal of focal infection in 58 cases did not show a higher percentage of improvement or recoveries than in the control group of 62 cases in which foci of infection were not removed. (2) In every case that recovered, the prognosis had been favorable before treatment started and no case recovered in which there had been a poor prognosis. (3) Cotton's methods of establishing focal infection was proven unsatisfactory for teeth, stomach, lower intestine, and cervix. (4) No proof is given that focal infection is an etiological factor in functional psychoses. A. L. GOULD (Boston Psychopathic Hospital).

851. HEYMAN, M. B., Some Problems of Hospital Personnel. *Amer. J. of Psychiat.*, 1923, 3, 199-217.

Improvement in personnel and the physical aspects of state hospitals has not kept pace with improvement in social service, and occupational therapy. There has been no one standard or system adopted by all state hospitals. Limited immigration and drop in medical school graduates has affected all branches of the service so that something is necessary to stimulate and hold the interest of possible employees. In order to reach new sources a campaign by

printed leaflet similar to Y. M. C. A. booklets is suggested, supplemented by individual effort of those already satisfactorily employed. A standard for selection of employees should be set including a mental and physical examination, possibly a psychometric and character analysis. On employment attendants should be given a good course of training and shown the possibilities for promotion. Living conditions and wages must be made as attractive as those outside of the hospital if improvement in personnel is to be effected. A. L. GOULD (Boston Psychopathic Hospital).

852. GREGORY, M. S., Prejudices Regarding Expert Testimony in Mental Diseases. *Amer. J. of Psychiat.*, 1923, 3, 211-217.

Expert testimony in relation to criminal responsibility is often forced into a false position by the rules of evidence; the legal standard of criminal responsibility is contrary to modern principles of psychology and psychiatry. In many instances, however, the psychiatrist himself has muddled expert testimony by vagueness and disagreement with others of his profession. The intermediary groups, including borderline intelligence, constitutional psychopathic inferiorities, hysterical episodes, etc., particularly cause this divergence marking the experts off into two groups; those who say there is no responsibility, those who say there is no lack of accountability. The paper suggests the feasibility of a committee appointed by the American Psychiatric Association to investigate by questionnaire and discussion of members the adoption of some general standards of responsibility in reference to mooted types, and a definition of the law of criminal responsibility in terms of psychiatry and psychology. A. L. GOULD (Boston Psychopathic Hospital).

853. THOM, D. H., Medico-Legal Provision in the State of Massachusetts, Relative to the Mental Condition of Certain Persons Held for Trial. *Amer. J. of Psychiat.*, 1923, 3, 219-231.

Under the Massachusetts law a person indicted for capital offense or a recidivist is referred to the Department of Mental Diseases for an examination to determine mental condition. The law is defective in wording and should be rephrased or reinterpreted to include other than capital offenses and to make the follow-up of a criminal record obligatory for the clerk of court. To facilitate the latter a clearing house for criminal records is suggested, an extension, perhaps, of Mr. Parsons' "Bureau of Information." Of the first 100 cases of

application for mental examination none were judged insane which future behavior did not substantiate, although two were subsequently diagnosed insane. The efficiency in the object of the law seems to have been proven. A. L. GOULD (Boston Psychopathic Hospital).

854. CHENEY, C. O., New York State Hospital Mental Clinics. *Amer. J. of Psychiatry*, 1923, 3, 233-242.

A report on the present status of mental clinics and their organization. In 1905 the problem of after-care for the poor, discharged from insane hospitals, was emphasized by Miss Schuyler. In 1906 Dr. Adolf Meyer presented a Paper on "The Problem of Aftercare and the Organization of Societies for the Prophylaxis of Mental Disorders." In 1909 the first mental clinic was held at the St. Lawrence State Hospital. Since the amendment of the insanity law of the state to authorize outpatient departments and clinics with field agents, there have been established 35 clinics with the appointment of 30 social workers and coöperation with the State Commission of Mental Defectives. The clinics seem to have increased the number of voluntary admissions to hospitals. The cases handled are generally less marked than those inside and include many family and general dispensary problems. A. L. GOULD (Boston Psychopathic Hospital).

855. WELLS, F. L., and MARTIN, H. A., A Method of Memory Examination Suitable for Psychotic Cases. *Amer. J. of Psychiat.*, 1923, 3, 243-257.

As a function memory cannot be isolated from the general thought process but for clinical purposes memory for ideas may be tested. The present test is confined to ideas in the two upper levels, ideas immediately recalled or recalled after a perceptible search. The memory material is presented in twelve parts of different types with current norms for each part accompanied with directions for procedure and scoring. Appended are a John Doe record, the charted results, and tables for reducing point scores to per cents of the norm and for general percentage scores (memory quotient). The test was standardized on 111 cases scattered over the various diagnostic groups. The test is given to patients recommended by the physician for special or suspected memory difficulty. A. L. GOULD (Boston Psychopathic Hospital).

856. WENDER, L., Types of Psychoses Prevalent on the Isthmus of Panama. *Amer. J. of Psychiat.*, 1923, 3, 259-272.

"A statistical study based on two years' admission at Corozal Hospital. Although no definite conclusion can be drawn from this study, the following are worthy of note: (1) Predominance of dementia precox among the white population. (2) Neurosyphilis among male colored is out of proportion to colored female and white male; cerebral syphilis is more common in colored patients than paresis. (3) Absence of psychoses associated with pellagra among the Panamanians. (4) Manic-depressive psychosis is not common among colored West Indians." A. L. GOULD (Boston Psychopathic Hospital).

857. WARNER, S. B., Picking Parole Successes. *Amer. J. of Psychiat.*, 1923, 3, 273-283.

To determine whether an inmate when released will again commit crime is the crucial question in picking parole successes. It is a problem for the psychiatrist to work out various tests and criteria for parole, for parole success depends on the ability of the board to select applicants best fitted for parole. By investigation of reasons for choices of parole officers, decision is reported to be based on conduct of prisoner in the penal institution, nature of the crime, prior criminal record, and whether a job is waiting. The author stresses the environment which a man is called upon to face as the determining factor in parole success. "The environment must be prescribed." A. L. GOULD (Boston Psychopathic Hospital).

858. BUCKLEY, A. C., Scientific Aids to Psychiatry. *Amer. J. of Psychiat.*, 1923, 3, 285-308.

Psychiatry is no longer satisfied with mere classification of mental disease; it draws aid for diagnosis from many fields of science. Physics offers a method of measuring conductivity of living organisms, biochemistry a well-developed science of nutrition and the measurement of accumulation in the blood of glucose, urea, etc., which assists in the diagnosis of toxic psychoses. Biology has emphasized the reflex, and the importance of the various conditioned reflex and adaptive responses in behavior. The experiments on the laws of heredity have shown the possibility of the improvement of the individual in immaturity, and have made the distinction between "induction" and heredity through the germ plasm. From cerebral

morphology has come knowledge of the development of cerebral cortex layers and the durability of neurones which helps in the explanation of states of dementia, idiocy, and adolescent psychoses. The effects of internal secretions and adrenin, shown in physiological studies, are of great importance in understanding psychoses. Psychiatry must not be bound by any one of the three groups in abnormal psychology; some mechanisms of disorder are of somatic origin, some of psychic origin, but psychiatry is free to draw from all three groups which for its purpose are inseparable. A. L. GOULD (Boston Psychopathic Hospital).

859. BAILEY, P., A Study of Tumors Arising from Ependymal Cells. *Arch. of Neurol. and Psychiat.*, 1924, 11, 1-27.

"It seems, therefore, that the microscopic structure typical of an ependymoma may be summarized as follows: The tumor is composed of a mosaic of polygonal cells with well defined cell borders and heavy, coarsely granular cytoplasm. The cells are crowded against each other and have a single large vesicular nucleus. Among them may be seen a few coarse fibrils which stain poorly with methods for the demonstration of neuroglia fibrils. In certain areas the fibrils may be seen to be the continuation of one extremity of the cells. In these areas the cells are apt to have a tendency to arrange themselves radially around blood vessels or around channels empty except for a protein coagulum. The blood vessels are broad channels whose walls contain a little poorly developed, often hyalinized connective tissue. No other connective tissue is present. In practically all the cells (probably all if the entire cell were included in the section) is to be seen a clear area containing sometimes one, usually two or three, rarely as many as a dozen small, clean-cut markings which stain heavily by methods for demonstrating neuroglia fibrils, and may be spherical or short bacillus-like rods. These markings we have interpreted as blepharoplasten, so typical of ependymal cells." B. M. CASTNER (Boston Psychopathic Hospital).

860. HASSIN, G. B., A Note on the Comparative Histopathology of Acute Anterior Poliomyelitis and Epidemic Encephalitis. *Arch. of Neurol. and Psychiat.*, 1924, 11, 28-42.

Epidemic encephalitis and epidemic poliomyelitis, strikingly similar in many respects, have nevertheless been distinguished clinically, serologically, and possibly also bacteriologically. Here are presented

studies to show that they differ histologically as well. Both exhibit inflammatory and degenerative changes, but these are much more intense in poliomyelitis. The entire central nervous system in both cases may be involved by the inflammatory, as well as by the degenerative changes, which decrease in severity, cephalad in poliomyelitis, and caudad in encephalitis. The extent and intensity of the change may be so similar that a differential diagnosis is possible only from the degree of the degenerative changes in the cord. "The presence of hematogenous elements in the central canal may be interpreted as a proof that the flow of the contents of the perivascular spaces is not only toward the subarachnoid space, but also toward the central canal." B. M. CASTNER (Boston Psychopathic Hospital).

861. MILLS, H. P., HAINES, T. H., and SESSIONS, M. A., Familial Muscular Dystrophy: Studies of Six Cases in One Family. *Arch. of Neurol. and Psychiat.*, 1924, 11, 43-53.

Seven cases of muscular dystrophy, one now dead, occurred among twelve children born to the same parents. There is no evidence of direct inheritance of the disability, which made its first appearance in each case at about the age of seven. The cases failed in more than one respect to conform with characteristics previously reported, particularly in the one pseudohypertrophic case present. Detailed metabolism studies were not practicable, but basal metabolism determinations did not point clearly to either hyperfunction or hypofunction of the thyroid gland as the etiologic factor; and hypoglycemia, which has been reported in other cases, was not found. B. M. CASTNER (Boston Psychopathic Hospital).

862. LENOX, W. G., O'CONNOR, M. F., and WRIGHT, L. H. Studies of the Metabolism in Epilepsy. I. The Nonprotein Nitrogenous Constituents of the Blood. *Arch. of Neurol. and Psychiat.*, 1924, 11, 54-63.

"In a large group of epileptic patients, examination of the blood for total nonprotein nitrogen, urea nitrogen, amino-acid nitrogen, uric acid and creatinin showed these constituents to be within the limits of normal." B. M. CASTNER (Boston Psychopathic Hospital).

863. GRIMBERG, L., Ambulatory Encephalitis. *Arch. of Neurol. and Psychiat.*, 1924, 11, 64-69.

What appears to be a mild attack of encephalitis often proves to

have been the stage of invasion of a much more serious condition. No clinical facts being apparent by which the probable development of a case can be foretold, every mild case should be regarded as a potential severe case. The author found that ambulatory patients who showed a loss of the upward gaze developed the severe form of the disease, and that, of those who were acutely ill, those who had showed a loss of the upward gaze were in a more serious condition than those who had not. Patients of this type, therefore, should be considered as acutely ill, and should be treated as such. B. M. CASTNER (Boston Psychopathic Hospital).

864. ROSANOFF, A. J., and BERGMAN, G. W., Constitutional Psychoses Ending in Permanent Recovery. *Arch. of Neurol. and Psychiat.*, 1924, 11, 70-81.

Cases admitted between 1880 and 1889 at an age of not over twenty-five years, discharged as recovered, and not subsequently readmitted, were investigated for later history. Eight could be traced. None of these, among whom manic-depressive and schizophrenic reactions seem to have been predominant, had shown recurrence of psychotic symptoms up to the time of the study (1921-1922). Complete recovery from epileptic manifestations in childhood or youth is familiar. These facts are brought forward in support of a theory of personality previously set forth in these pages, which may be briefly restated here: Five elementary components of personality are to be distinguished—normal, antisocial, cyclothymic, schizophrenic, and epileptic, each being determined by special germ-plasm factors. These components are ranged in a scale of dominance in the order given, each being epistatic to those below it in the scale and hypostatic to those above it. Thus the "normal" factor is epistatic to all the others. All are not present at birth, nor do they appear simultaneously. The "normal" factor is sometimes late in maturing; when this is the case the other factors dominate, permitting the development of a psychosis, which ends in permanent recovery as the epistatic "normal" factor reaches maturity. The authors conclude as well that permanent recovery occurs much more frequently than has been generally supposed. B. M. CASTNER (Boston Psychopathic Hospital).

865. PRINCE, M., A Case of Complete Loss of All Sensory Functions Excepting Hearing but Including Coenesthesia and Visual Images of the Body. *J. of Abnorm. Psychol. and Soc. Psychol.*, 1923, 18, 238-243.

Report of a very rare case of dissociation involving almost the entire sensory sphere, and developed quite accidentally under hypnosis. The subject was unable to taste, smell, feel tactually, had no kinesthetic sensations, no coenesthesia, no perception of her body—not even visual images of her body—and not a single organic sensation. She described herself simply as “thought in space.” The writer suggests as a tentative explanation in view of the close psychophysiological connection between sexual emotion and sensation with other somatic sensations, and considering that there had been a life-long repression of the sexual instinct on the part of the subject, that this “‘rebellion,’ which originally had produced repression, still continuing . . . untrammelled in the dissociated condition of ‘hypnosis,’ had produced a more widespread repression and had carried off with the sex feeling this whole organized system of sensibility.” “In other words by the repression of one element of a system, against which there is a conflict, the whole system may be . . . dissociated.” M. S. CHILD (Boston Psychopathic Hospital).

866. BAGBY, E., The Inferiority Reaction. *J. of Abnorm. Psychol. and Soc. Psychol.*, 1923, 18, 269-273.

“An inferiority reaction is a system of habits, ever increasing in complexity. In the first stage the individual develops a fear attitude toward those who treat him in a hostile way. The frequent recurrence of the fear leads to the formation of a complex of defense reactions which constitute an adjustment. Although every particular adjustment takes its form from the special circumstances which surround the individual, several typical adjustments may be distinguished. A review of these makes it appear that certain ‘symptoms’ which the Freudians ascribe to operations of the sex instinct are in reality habits based on the fear emotion.” M. S. CHILD (Boston Psychopathic Hospital).

867. BISCHOFF, E., Kasuistische Mitteilungen über Anleitung zur Simulation von Geisteskrankheit. *Arch. f. Krim.*, 1923, 75, 291-299.

Es handelt sich um zwei Anleitungen zur Vortäuschung epilep-

tischer Anfälle und eine Anleitung zur Vortäuschung von Paranoia.
O. LIPMANN (Berlin).

868. SCHLAPP, M. G., Causes of Defective Children. *J. of Heredity*, 1923, 14, 387-397.

Defective children are frequently produced by certain chemical imbalance in the mother during the period of gestation as a result of which the cells of the developing embryo do not receive proper nutrition. Several cases are given of mothers of immigrant class who produced normal children before coming to America but, for a time, produced defective children just after arriving due to the upset of the chemical processes from homesickness and the struggle of readjustment. Mongolian idiocy is most frequent when the child is born as the mother is nearing menopause at which time her chemical processes are not normal. We do not yet know which glands are involved and so a pluri-glandular treatment has proven to be most effective. The problem has a wide application in explaining why women going into industry should have an effect on childbirth. It is not only that the energy of the mother is misspent but also that industry has a strong emotional effect. The author then emphasizes the necessity of continuing glandular treatment at regular intervals throughout the life of the patient and shows, by some striking photographs, the effects of discontinuing such treatment and of starting the treatment too late. S. W. FERNBERGER (Pennsylvania).

869. PATRICK, H. T., and LEVY, D. M., Early Convulsions in Epileptics and Others. *J. Amer. Med. Assn.*, 1924, 82, 375-381.

A study of the records of early convulsions in 500 epileptics and 752 control subjects. The presence of convulsions in childhood was found to increase the normal chances for epilepsy by at least five. The teething spasms occurring from eleven to thirteen months appear to be especially benign. The early convulsions of the control group were "brief, generalized, and not followed by confusion or prolonged stupor." D. A. LAIRD (New Haven).

870. FARR, C. B., and LUEDERS, C. W., Gastric Secretory Functions in the Psychoses. *Arch. of Neurol. and Psychiat.*, 1923, 10, 548-553.

During manic states secretion was normal and unduly sustained

while in the depressed states the secretion was reduced or delayed. D. A. LAIRD (New Haven).

871. SEEMANN, M., Cerebellum and Speech. *Casopis Lekaruv Ceskych*, 1923, 62, 1441-1447.

Observations of poor and late development of general motor control in children associated with late speech development suggests cerebellar functioning in the formation of explicit language habits. D. A. LAIRD (New Haven).

872. CONNELLY, E. M., A Conception of Psycho-neuroses and Some Errors to Be Avoided in Their diagnosis. *New Orleans Med. and Surg. J.*, 1923, 76, 91-96.

Psychoneuroses are social rather than physiological reactions; accordingly the patient must be treated socially as well as glandularly. The introduction of psychopathology has been the most important development in the understanding of these step-children of medicine. D. A. LAIRD (New Haven).

873. DASPIT, H., What the State Is Not Doing for Its Mentally Diseased. *New Orleans Med. and Surg. J.*, 1923, 76, 144-148.

A central bureau of mental hygiene, a new state hospital, habit clinics, and an extensive parole system urged for Louisiana. D. A. LAIRD (New Haven).

874. THOMAS, J. R., What Louisiana Is Doing for Her Insane. *New Orleans Med. and Surg. J.*, 1923, 76, 148-152.

Report of the organization and administration of mental hospitals in this state. D. A. LAIRD (New Haven).

875. GIBBS, C. E., Sex Development and Behavior in Female Patients with Dementia Precox. *Arch. of Neurol. and Psychiat.*, 1924, 11, 179-194.

Study of dementia precox, manic-depressive, and normal women shows the psychotic to have masculine secondary sexual characters five times as frequently as do the control group. The disturbed sex life of the psychotics appears to be in close relation to the development of the secondary characters studied. D. A. LAIRD (New Haven).

876. WEISS, M., and IZGUS, L., Syphilis as a Factor in the Etiology of Mental Deficiency. *J. Amer. Med. Assn.*, 1924, 82, 12-15.

Serological and stigmatological examination of 1,633 patients shows syphilis to be less common in mental defectives than in the general population. ". . . the feeling has grown on us more and more that there is no such abnormal mental state as 'syphilitic amentia'." D. A. LAIRD (New Haven).

877. DRAPER, J. E., Surgical Studies in the So-Called Functional Psychoses. *Va. Med. Monthly*, 1923, 50, 579-583.

Report of the author's experiences in removing toxemias; his attitude favors of focal infections as a cause of the functional psychoses. D. A. LAIRD (New Haven).

878. FOSTER, L. S., Should Virginia Have a Department of Psychiatry? *Va. Med. Monthly*, 1923, 50, 711-714.

A discussion of the work that could be done by a psychiatrist in the courts. D. A. LAIRD (New Haven).

879. STRICKLAND, J. A., A Discussion of Some Phases of Mental Diseases. *Va. Med. Monthly*, 1923, 50, 389-393. D. A. LAIRD (New Haven).

880. MASTERS, H. R., Nervous, Mental and Endocrine Manifestations in Menopause. *Va. Med. Monthly*, 1923, 50, 317-320. D. A. LAIRD (New Haven).

881. KING, D. M., Defective Will as the Cause of Dementia Precox. *Amer. Med.*, 1923, 29, 647-655.

Will is identified as the censor and its disfunctioning in dementia precox illustrated. D. A. LAIRD (New Haven).

882. LARSON, J. A., and WALKER, A., Paranoia and Paranoid Personalities: a Practical Police Problem. *J. of Crim. Law and Crim.*, 1923, 14, 350-375.

Paranoid personalities present a peculiarly difficult series of problems to society in general and to the police in particular. In the latent stage the "chronic kicker" creates enormous trouble for the authorities by making repeated complaints with no foundation other

than delusional trends. In the more developed stages passivity is replaced by active antagonism directed usually against an innocent individual; and finally in the full-fledged paranoid the murderer or the property-wrecker has emerged. The problems of early detection and conviction are complicated by ignorance on the part of the police, the jury, and the judges: the police rarely have sufficient training to recognize and arrest a paranoid; if he is arrested the jury will seldom convict an insane individual, particularly if he possesses the intellectual equipment and plausibility of the paranoid; and finally, even if he is convicted the judge seldom metes out an appropriate sentence. A paranoid always emerges from jail with "an accentuated grudge" against society. Among recommendations for better conditions are the following: requisite training for the police, the district attorneys and the judges; the substitution of an expert body of psychiatrists for the customary jury; and the permanent retention of the habitual paranoid offender. M. S. CHILD (Boston Psychopathic Hospital).

883. WEEKS, D. F., RENNER, D. S., and ALLEN, F. M., Observations on Fasting and Diets in the Treatment of Epilepsy. *J. Metabol. Research*, 1923, 3, 317-364.

"These diet tests have afforded no indications of a metabolic element in epilepsy. On the practical side the most important conclusion is that any kind of a healthful mixed diet may be used in the management of epilepsy." D. A. LAIRD (New Haven).

884. HYSLOP, G. H., Observations in 1,000 Neurological Cases. *J. Amer. Med. Assn.*, 1923, 81, 458-501.

About 3 per cent of the paralyses observed were hysterical. Cure or improvement was recorded in 46 per cent of the organic cases, in 75 per cent of the psychoneuroses, and in 20 per cent of the psychoses. D. A. LAIRD (New Haven).

885. HOUSE, W., The Patient's Mind. *J. Amer. Med. Assn.*, 1923, 81, 196-199.

Considers fear and the desire for attention as etiological factors that aggravate rather than originate symptoms. D. A. LAIRD (New Haven).

886. POTTER, H. W., Endocrine Therapy in Mental Deficiency. *Endocrinol.*, 1923, 7, 25-40.

Organotherapy produced increase in the mental ages above the expected increase in seventeen out of fifty-two patients treated. The median increase was six months, the maximum nineteen. D. A. LAIRD (New Haven).

887. STRECKER, E. D., Why Abnormal Mental Disorders Develop. *Ann. Clin. Med.*, 1923, 2, 63-69.

"Practically every psychosis is the final result of a lifelong reaction and develops from influences hereditary, somatic, or psychogenetic." D. A. LAIRD (New Haven).

888. WOLFE, A. A., The Laurelton State Village and Pennsylvania's Problem of Mental Defectives. *Atlantic Med. J.*, 1923, 27, 56-59. D. A. LAIRD (New Haven).

889. PIKE, H. V., Mental Medicine of Yesterday, To-day, and To-morrow. *Atlantic Med. J.*, 1923, 27, 16-19. D. A. LAIRD (New Haven).

890. PALMER, G. T., The Psychology of the Tubercular Patient. *Ill. Med. J.*, 1924, 45, 56-58.

Suggestive remarks for making the analysis of the temperamental and other mental equipment of the patient a definite part of the diagnosis. Reports estimates that attribute 30 per cent of recoveries to temperament and 10 per cent to climate. D. A. LAIRD (New Haven).

891. WELLS, W. A., A New and Simple Method of Detecting Feigned Unilateral Deafness. *J. Amer. Med. Assn.*, 1923, 81, 199-200. D. A. LAIRD (New Haven).

892. GOODALL, E., Considerations, Bacteriological, Toxicological and Haematological, and Others Thereto Akin, Bearing On the Psychoses. *J. of Ment. Sci.*, 1923, 69, 417-434.

A summary of the literature and general experimental findings on the following factors as related to the psychoses: examination of the

blood for organisms with the usual aerobic bacteriological methods; examination for microorganisms in the urine; examination of the cerebrospinal fluid for bacteria; bacteriological examination of the feces (note on value of disinfectants when given by the mouth); (records certain findings bearing upon the question of the toxicity of the blood, cerebrospinal fluid and urine of cases of mental disorder, experiments on fowls and rabbits); findings and conclusions of workers seeking for evidence of toxicity in psychoses as shown by a change in the leucocytal count; efforts to ameliorate mental disorders prompted by observed effects of intercurrent maladies; production of antibodies by inoculation of animals with the sera, red blood corpuscles, or stroma of the same in cases of mental disorders. Regarding each of these factors, the author summarizes our present knowledge, and indicates the need for further research. A. M. JONES (Pennsylvania).

893. COTTON, H. A., The Relation of Chronic Sepsis to the So-Called Functional Mental Disorders. *J. of Ment. Sci.*, 1923, 69, 435-465.

Introductory material concerning historical setting of problem, etiological factors, psychogenic factors, toxic factors, etc., in relation to psychoses. Body of paper devoted to discussion of chronic sepsis as a factor in producing psychoses. Work is reported from the state hospital, Trenton, New Jersey, where Dr. Cotton is the medical director. The sources of sepsis are enumerated and discussed (oral sepsis, teeth and tonsils, gastric infection, lesions of the lower intestinal tract, genito-urinary tract, sinuses)—dissemination of infection and types of bacteria concerned. Method of examination for each source is indicated. Explanatory charts, diagrams, and photographs are reproduced. Treatment is discussed, and tangible results presented in figures on percentage of cure and improvement in cases admitted to state hospital (87 per cent in past five years, as compared with 38 per cent for the ten years preceding 1918). The paper presents conclusive evidence of the relation of chronic sepsis to conditions usually diagnosed as functional, and insists that it is imperative to make a thorough diagnostic survey to eliminate all foci of infection in every case admitted to a mental hospital. A. M. JONES (Pennsylvania).

894. GRAVES, T. V., The Relation of Chronic Sepsis to So-Called Functional Mental Disorder. *J. of Ment. Sci.*, 1923, 69, 465-471.

Paper limited to the relation of chronic sepsis in hard tissues (especially jaws, ears, and nasal passages) to disturbance of emotional tone. Thirteen illustrative cases are briefly sketched. A. M. JONES (Pennsylvania).

895. PHILLIPS, J. G., The Early Treatment of Mental Disorder: A Critical Survey of Out-Patient Clinics. *J. of Ment. Sci.*, 1923, 69, 471-482.

Outlines the more obvious factors which point to the need of extended out-patient service. Reviews briefly the organization and general procedure of the Bethlehem Royal Hospital, for the handling of out-patients who require early treatment. A. M. JONES (Pennsylvania).

896. WIERSMA, E. D., The Psychology of Epilepsy. *J. of Ment. Sci.*, 1923, 69, 482-497.

Since loss of consciousness in some degree is a constant and universal symptom in all forms of epilepsy, it appears to the author to be the primary, while motor disturbances are secondary phenomena in the disease. Phenomena of "imperception" occurring in epilepsy can be related to similar states in normal people, resulting in such disturbances as unusual and convulsive motor phenomena just prior to sleep, hypnagogic hallucinations, paralogisms, pavor nocturnis, *fausse reconnaissance*, etc. In states of lowered consciousness and normal as well as pathological states, such as sleep, induced sleep, alcoholic intoxication, we find the motor, as well as the psychical phenomena of epilepsy. The primary factor appears to be a state of greater or less "imperception." The author performed a series of experiments on epileptics, investigating the number and degree of states of imperception as compared to normal individuals, and concludes that in epileptics there is a greater inclination for conditions of loss of consciousness than in normal people; that clinical observation has shown this for states of imperception and *fausse reconnaissance*, and that experimentally this can be demonstrated by the greater and longer incapability of perception of weak stimuli, and by lengthened reaction time. To show that well-known epileptic character traits appear also in some normal persons, he has presented a

table (the result of a *questionnaire*), in which he shows the percentage of certain character traits as appearing in three groups of persons, (1) normal, (2) absent-minded and nonactive, and (3) epileptics. A. M. JONES (Pennsylvania).

897. STOOKEY, B., An Experimental Study of Hyperneurotization. *Arch. of Neurol. and Psychiat.*, 1924, 11, 113-120.

This experiment appears to demonstrate the possibility of the hyperneurotization of normal muscle. When the ulnar nerve was cut and implanted into the biceps muscle, the musculocutaneous nerve being left undisturbed, contraction of the muscle was found to occur upon the stimulation of either nerve. Owing to the possibility of dispersion of the current from the ulnar fibers in the muscle to the motor end plates of the musculocutaneous nerve, the musculocutaneous innervation to the biceps was destroyed, and it was found that contraction of the biceps still occurred upon stimulation of the ulnar nerve. Study by histologic methods revealed normal motor end plates which electrical examination showed could only have been derived from the implanted ulnar nerve. B. M. CASTNER (Boston Psychopathic Hospital).

898. HASSIN, G. B., Brain Changes in Typhus Fever Contrasted with Those in Epidemic Encephalitis and Acute Poliomyelitis. *Arch. of Neurol. and Psychiat.*, 1924, 11, 121-136.

The author's conclusions: (1) The changes in the central nervous system in typhus fever are those of an acute disseminated encephalomyelitis, nonsuppurative in character. (2) It much resembles other forms of encephalitis, such as the epidemic type and that occurring in some forms of poliomyelitis. (3) It differs from the two types mentioned by the wider distribution, by lack of preference for certain areas, and by the presence of more pronounced degenerative changes. (4) The subarachnoid and choroid plexus changes are also considerably more marked, which is probably in accordance with more severe and more widespread parenchymatous changes. (5) The nodules are by no means typical of typhus, for they occur also in epidemic and poliomyelitic types of encephalitis. (6) The nodule formation is not due to vascular disorder, but is the result of the action of a specific virus. (7) In typhus fever the virus is responsible for both the inflammatory and the degenerative changes in the

central nervous system. B. M. CASTNER (Boston Psychopathic Hospital).

899. BAILEY, P., Concerning the Cerebellar Symptoms Produced by Suprasellar Tumors. *Arch. of Neurol. and Psychiat.*, 1924, 11, 137-150.

"The main source of difficulty in the differential diagnosis between supratentorial and infratentorial tumors lies in the equilibratory disturbance which both may cause. Three cases of suprasellar tumor are described which gave rise to symptoms of cerebellar disorder, mainly equilibratory, possibly from interference with the efferent pathways of the cerebellum in the region of the incisura tentorii, or to interruption of cerebrocerebellar connection." B. M. CASTNER (Boston Psychopathic Hospital).

900. KENNEDY, F., and STEVENSON, L., Testicular Teratoma with Secondary Deposits in the Spinal Column and Meninges. *Arch. of Neurol. and Psychiat.*, 1924, 11, 151-154.

The report of a case, in which a confusing clinical picture was explained by certain uncommon features of the microscopic examination. B. M. CASTNER (Boston Psychopathic Hospital).

901. ROSENOW, E. C., Experiments on the Etiology of Respiratory Arrhythmias Following Epidemic Encephalitis. *Arch. of Neurol. and Psychiat.*, 1924, 11, 155-178.

The injection of a streptococcus with peculiar neurotropic properties, obtained from patients who presented marked respiratory arrhythmia following epidemic encephalitis, produced in animals disturbances in breathing and abnormalities of posture often similar to those in the patient from whom the strain was isolated. Lesions characteristic of encephalitis, but located chiefly in the medulla, were produced. The results strongly suggest that the condition is not a sequel to, but a continuation of the initial encephalitic attack, due to lesions produced in the central nervous system by a streptococcus having highly specific localizing power. B. M. CASTNER (Boston Psychopathic Hospital).

902. GIBBS, C. E., Sex Development and Behavior in Female Patients with Dementia Praecox. *Arch. of Neurol. and Psychiat.*, 1924, 11, 179-194.

Most of the women studied who had developed dementia precox

presented a history of some degree of inadequacy or disturbance in sexual behavior; its type and degree being closely related to the age at which the psychosis appeared, and, to some extent, upon certain physical differences. In cases of early onset, inadequate behavior often appeared in conjunction with incomplete physical sex development, along with other evidence of endocrine disturbance. When this inadequacy appeared in cases of later onset, a masculine distribution of secondary sexual hair was frequently to be observed. When, in the cases of later onset, there had been a period of sexual activity, there was less disturbance of physical development, and the patients were more mature and feminine in appearance, although masculine hair still appeared more frequently than in controls. In this last group, however, reproductive function appeared to be only relatively adequate. A close relation was found between the presence of masculine hair and the type of sexual behavior. Masculine hair is interpreted by the author as merely the surface manifestation of a more profound and widespread biologic disturbance which influences behavior, and which is not confined to the ovaries. B. M. CASTNER (Boston Psychopathic Hospital).

903. KOSTER, S., Hypnosis in the Treatment of Neuralgia and Neuritis. *Nederlandsch Tijdschrift v. Geneeskunde*, 1924, 1, 110-126.

By excluding the mental element by hypnosis the subjective symptoms are relieved and more favorable conditions prevail for healing the organic condition. Twelve out of 15 patients amenable to hypnosis were dismissed from the hospital after average period of 39 days. Five out of 15 control patients dismissed in same stages of recovery after average hospital period of 48 days. D. A. LAIRD (New Haven).

904. ALFORD, L. B., Dementia Praecox as a Type of Hereditary Degeneration. *Missouri State Med. Assn. J.*, 1924, 21, 1-3.

Evidence of analogy indicates dementia praecox to be a heredo-familial degeneration of a set of nervous structures; there is need of data to confirm this. D. A. LAIRD (New Haven).

905. RIDDEL, D. O., and STEWART, R. M., Syphilis as an Etiologic Factor in Mongolian Idiocy. *J. of Neurol. and Psychopathol.*, 1923, 4, 221-227.

Inclined not to believe that mongolian idiocy is a form of congenital syphilis. D. A. LAIRD (New Haven).

10. INDIVIDUAL, RACIAL AND SOCIAL PSYCHOLOGY

906. MARTIN, E. D., Some Mechanisms Which Distinguish the Crowd from Other Forms of Social Behavior. *J. of Abnorm. Psychol. and Soc. Psychol.*, 1923, 18, 187-203.

An analysis of crowds from the slant of psychopathology shows that the same unconscious mechanisms motivating the behavior of unadjusted individuals are similarly functioning to produce the behavior of crowds or unadjusted social groups. Group behavior gives way to crowd behavior when recognized modes of mutual social adjustment between factions are no longer utilized but are replaced by the creation of an abnormal, pseudosocial environment in which indulgence in behavior inhibited by general social control is permissible. Social groups, like individuals, come into conflict in society, impulses are inhibited, unindulged desires are stored up or repressed, and the repression is worked off in a normal or an abnormal way. The crowd resorts to the familiar mechanisms: "substitution," "rationalization," "compensation," "disguise," "egomania," "projection," etc. Three characteristics in particular are "so symptomatic that they may be used empirically to distinguish crowd behavior from normal forms of social behavior": a closed system of ideas substituted for the facts of experience—propaganda, dogma, creed—ideas whose vindication is to be achieved not by research and experimentation, but by the power of numbers or of direct action; delusions of grandeur or a fictitious superiority, based, of course, on unconscious compensation for inferiority and directly proportional to the amount of that inferiority; and finally delusions of persecution veiling a homicidal desire to do away with the group whose actual superiority it unconsciously realizes and fears. The older, more established explanations for crowd behavior are not wholly tenable. The "group mind" is a logical impossibility for it means either "that there is a psychological entity which is exclusive of individual psyches and yet includes them, or it means that for certain purposes

individual differences may be ignored and we may speak of collective behavior as the behavior of the collectivity. In the first case, the group mind is a mystical concept, and in the second it is "tautological." The "herd instinct" is both misleading and irrelevant. Its use is usually accompanied by confusion and vagueness of definition; and it offers no practical means of differentiation between normal and abnormal behavior, or between the social group and the crowd. M. S. CHILD (Boston Psychopathic Hospital).

907. GARTH, T. R., A Comparison of the Intelligence of Mexican and Mixed and Full Blood Indian Children. *Psychol. Rev.*, 1923, 30, 388-402.

The national intelligence test, scale A, was applied to children of the following groups: Mexicans, mixed-blood Indians, and full-blood Plains, Southeastern, Navajo, Apache and Pueblo Indians. The scores are presented in tabular form and by a series of curves. The writer ranks the blood-groups according to intelligence. This ranking corresponds to estimated social status and to average amount of education. Mixed breeds excel pure breeds in intelligence scores and the nomadic excel the sedentary. P. T. YOUNG (Illinois).

908. DÖRING, M., Prof. Dr. Otto Selz-Bonn über "Persönlichkeitstypen und die Methoden ihrer Bestimmung." *Wiss. Beilage z. Leipziger Lehrerzeit.*, 1923, 23, 177-184.

Ausführliches Referat mit Literaturangaben über den auf dem 8. Kongress für experimentelle Psychologie von Selz gehaltenen Vortrag. H. BOGEN (Berlin).

909. ZIEMKE, E., Ueber Selbstbeschädigungen. *Arch. f. Krim.*, 1923, 75, 241-258.

Bei vielen Gefangenen ruft der Mangel an äusseren Reizen und einer zusagenden Betätigung Angstzustände hervor, die mitunter auch die Neigung zu Selbstbeschädigungen (Selbstmord, Selbstmordversuch) zur Folge haben. Andere Selbstbeschädigungen sind Folgen des Spieltreibs oder sind zu erklären durch des Bestreben des Gefangenen, seine Lage zu verbessern (Ueberführung ins Krankenhaus). Eine dritte Gruppe von Selbstbeschädigungen, zu denen wohl alle Verstümmlungen der Geschlechtsteile gehören, lassen auf zweifelhafte Geisteszustände schliessen. O. LIPMANN (Berlin).

910. PARMELEE, M., Zivilisation und Verbrechen. *Arch. f. Krim.*, 1923, 75, 259-265.

Die Zivilisation hat das menschliche Leben kompliziert und dadurch den Menschen nervöser gemacht; dies kann zu einer grösseren Zahl von Verbrechen geführt haben. Ferner vermehrt die durch den Fortschritt der Zivilisation bedingte erweiterte Tätigkeit der Gesellschaft die Veranlassungen und Gelegenheiten zum Verbrechen. Die Zivilisation ändert den Charakter des Verbrechens aus dem gewaltsamen in den listigen Typus. Wirtschaftliche und politische Systemänderungen können die Zahl der Verbrechen verringern. O. LIPMANN (Berlin).

911. BOWERS, E. F., The Surgeon and the Criminal. *Amer. Med.*, 1923, 29, 578-581.

The possibility of brain and glandular surgery in remaking anti-social attitudes is considered. D. A. LAIRD (New Haven).

11. MENTAL DEVELOPMENT IN MAN

912. PECHSTEIN, L. A., Factors Influencing the School Success of the Blind. *Sch. and Soc.*, 1924, 19, 47-52.

The school marks of 240 children in a school for the blind are compared with various factors. Poorest school work is done by the congenitally blind. Those having slight vision do poor work, because they are not compelled to use touch so exclusively as the totally blind. Those becoming blind before the age of two do poorer school work than those who become blind later in life. Entering school before age seven seems to be of no advantage so far as school work is concerned. The distribution of I.Q.'s shows more children below 80 than is to be expected in public schools. R. PINTNER (Columbia).

913. GOODRICH, T. V., and CLEMENTS, S. L., A Comparison of a Group of High School "Failures" with a Group of Successful Students. *Sch. and Soc.*, 1923, 18, 715-720.

Ninety-nine students who did unsatisfactory work are compared with seventy-four who did satisfactory work. The unsatisfactory group is about one year older chronologically. On The Terman Group Intelligence Test the satisfactory group makes a median I.Q.

of 113 as compared with a median of 97 for the unsatisfactory group. There is no difference between the two groups on the Stenquist Mechanical Aptitude Test. The unsatisfactory study a few minutes less per day; belong to fewer clubs; a larger percentage smoke; they prefer handwork and commercial subjects. R. PINTNER (Columbia).

914. MOOR, B. V., A Tested Method of Using Tests for Vocational Guidance. *Sch. and Soc.*, 1923, 18, 761-764.

A test to determine special capacities was constructed in two parts. Part I was to indicate sales capacity of graduate engineers; Part II to indicate design engineering capacity. The results of these tests were used in two ways. The subtraction of scores in Part II from scores in Part I in terms of standard deviations classified 79 per cent of the one group and 49 per cent of the other correctly. Dividing the scores in Part I by the scores in Part II classified 81 and 63 per cent correctly. A test or scale of interests was also prepared and this classified correctly 89 and 69 per cent of the two types of engineers. R. PINTNER (Columbia).

915. GATES, G. S., An Experimental Study of the Growth of Social Perception. *J. of Educ. Psychol.*, 1923, 14, 449-463.

An investigation is made of the practical application of a test which will measure the ability of an individual according to his age, to detect the expression of emotions as depicted in a photograph. Six pictures from Ruckmick's group were chosen (*Psychol. Mono.*, No. 136, 1921, pp. 30-35). These pictures show such expressions as joy, pain, anger, fear, scorn, and surprise. The standard used in evaluating the replies was "exceedingly liberal," and the many interpretations which were given to express the trend of feeling present justifies the method used in scoring. Age differences are a factor in the ability to interpret emotional expression. However, there are no sex differences, and apparently no striking differences caused by social status. G. M. MICHAELS (Columbia).

916. EICKENBERRY, D. H., Permanence of High School Learning. *J. of Educ. Psychol.*, 1923, 14, 463-481.

What is the permanence of learning in those studies carried in high school, but not pursued in college? A group of seniors, 16 men and 18 women, were used as subjects for this investigation. To get at this there was first obtained a rough estimate of the students'

ability from their final semester grades in each subject while in high school. Second, the students rated their interest in these studies on a point scale, A to E. Third, the students were given a general intelligence test. Fourth, standard tests were used to get the standing of the students in those studies. The above data made possible a comparison between the scores on the standard tests and high school marks, and also the norms for high school pupils. Intelligence ratings are correlated with test scores, school marks, and interest in each subject. The test scores are correlated with school marks, interest ratings, and lapse of time. School marks are correlated with interest ratings.

The computations brought forth the following interesting conclusions: the college students retained most in American history, followed by ancient history, geometry, Latin, chemistry and physics, respectively. A positive correlation is obtained between school marks and interest in school studies. Test scores do not correlate with school marks. "There is a positive correlation of about .5 between intelligence as measured by our tests and test scores." Men are slightly superior to women in test scores and intelligence. However, the women are superior in high school grades. G. M. MICHAELS (Columbia).

917. ARTHUR, G., A Standardization of Certain Opposites for Children of Grade School Age. *J. of Educ. Psychol.*, 1923, 14, 483-495.

In order to get a list of words of known difficulty for use as an opposites test in a group scale norms are established for such a list. Ninety-six words were taken from King and Gold (*J. of Educ. Psychol.*, 1906, 7) and presented one at a time on a cardboard "8 by 2" for a period of ten seconds in which time the subject was required to put down on paper provided for the purpose "Just the Opposite." There were 600 pupils of a city school available as subjects for this work, ranging from grade II to grade VIII. Comparing the results with work done on adults it is found that children differ from them in ability to give opposites both quantitatively and qualitatively; "and that the ease or difficulty of a list of this ability for adults gives only a rough index of its ease or difficulty for children." The study shows several very adequate lists which might be used in a group scale or as a single test with words of equal difficulty

as well as a list of words of increasing difficulty. G. M. MICHAELS (Columbia).

918. VOORHIS, J. R., An Educational Test for the Ballot. *Educ. Rev.*, 1924, 67, 1-4.

Discussion of the need of a literacy test for the ballot with a sample of part of the test used in New York state. S. W. FERNBERGER (Pennsylvania).

919. THOMPSON, T. M., Intelligence Tests and Democracy in Education. *Educ. Rev.*, 1924, 67, 5-11.

The use of intelligence tests may lead to a new definition of democracy such as "a situation in which there is equality of opportunity plus social unity." The tests are valuable as "it is a kindness to the individual, as well as to society, to provide conditions so that each will occupy that sphere of activity where he will do the best that is in him, and thus be the most comfortable and content." S. W. FERNBERGER (Pennsylvania).

920. EDMONSON, J. B., and MULDER, F. J., Size of Class as a Factor in University Instruction. *J. of Educ. Research.*, 1924, 9, 1-12.

Tests were made of instruction of four classes in the same subject at the University of Michigan—the classes varying in size from 45 to 109. The classes were first equated by giving them an intelligence test. The authors believe that no appreciable differences in terms of semester averages are to be found between the classes of different size. The students prefer the small class inasmuch as there is more personal contact with the instructor, more class discussion and more varied illustrative material. S. W. FERNBERGER (Pennsylvania).

921. FENTON, N., and HOWARD, L. S., The Challenge of the Private School. *J. of Educ. Research*, 1924, 9, 22-28.

Among other matters the author points out that, on the whole, the population of private schools are superior mentally to those of public schools. S. W. FERNBERGER (Pennsylvania).

922. BISHOP, O., What Is Measured by Intelligence Tests? *J. of Educ. Research*, 1924, 9, 29-38.

Tests by the Otis Group Intelligence Scale, Form A, are analyzed. The author finds that the scores are very greatly influenced by the teaching the pupils had received. The pupil can double his score by a few lessons on similar but not identical material. "Any interpretation of scores which treats these influences as negligible is not justified." As an instrument for measuring the ability to do school work the tests are of value. S. W. FERNBERGER (Pennsylvania).

923. RUCH, G. M., The Speed Factor in Mental Measurements. *J. of Educ. Research*, 1924, 9, 39-45.

The author concludes: (1) The scores on the Terman Group Test earned under regular time limits correlate as high as 0.960 for ranges of talent roughly equal to combined seventh and eighth grades. (2) The scores earned in the reading and arithmetic tests of the Sanford Achievement Test under regular time limits correlate as high as 0.968 and 0.976, respectively, for ranges of talent equal to that represented by a standard deviation of mental ages of about twenty-two months. (3) In tests such as these studied, the speed factor does not seriously influence the ratings of the pupils. (4) It is suggested that a good working rule for the establishment of time limits, where pure power conditions are not practicable, would be to set the time limits so that 90 to 95 per cent of all pupils can finish every item within their abilities. S. W. FERNBERGER (Pennsylvania).

924. MORRISON, J. C., CORNELL, W. B., and CORNELL, E., A Study of Intelligence Scales for Grades Two and Three. *J. of Educ. Research*, 1924, 9, 46-56.

Six elementary tests were used on 45 pupils in the third and 39 pupils in the second grade. The Detroit, Haggerty, Dearborn, Pressey, Otis and Myers tests were used and compared with Binet mental age scores. The Otis test showed the best correlation in this comparison; the Dearborn test, however, correlated most highly with discriminative capacity. The Pressey test ranks highest from the point of view of administrative features. S. W. FERNBERGER (Pennsylvania).

925. BUSSE, H. H., Das literarische Verständnis der werktätigen Jugend zwischen 14–18. Eine entwicklungs- und sozial-psychologische Studie. *Zeits. f. angew. Psychol.*, 1923, Beiheft 32, 1–289.

Das Material der Untersuchung bilden Ausleihstatistiken von Bibliotheken, welche speziell von werktätigen Jugendlichen in Anspruch genommen werden, Jugendsichtungen und als Hauptquelle umfangreiche Aufzeichnungen, die der Verfasser als Leiter einer literarischen Abteilung eines Jugendvereins unbemerkt machen konnte. Stärkere Unvollkommenheiten im Verständnis für die dichterische Sprache hemmen vielfach das poetische Kunsterlebnis. Für die Entwicklung dieses Verständnisses spielen neben Schuleinflüssen und Berufseinwirkungen besonders die sozialen Lebensbedingungen des Einzelnen eine Rolle. Sie erschweren bei Handwerken das Erfassen des Kernpunktes einer Dichtung zugunsten einer falschen Betrachtung des Kunstwerkes unter dem Gesichtspunkt einer auffallen den Vorstellung. Sie erschweren ferner das Verständnis für die Symbolisierung eines Geistigen durch ein Anschauliches. Nur wenigen üzerragend Begabten gelingt es, die umfangreichen und komplizierten Auffassungsfunktionen bereit zu stellen, wie sie die Lektüre von Dramen voraussetzt. Die Entwicklungsstufen des literarischen Verständnisses zeigen eine gewisse Parallelität zur phylogenetischen Entwicklung. Das Märchenzeitalter ist vom 14–16 jährigen Jugendlichen überwunden mit "der radikalen Ablehnung der Kausalität des Wunders." Wunderbares im Bereich des Möglichen wird jedoch weiterhin akzeptiert (Aberglaube). Nur künstlerisch Bestveranlagte gelangen zu einer Wiederentdeckung des Märchens. Die geringe Neigung zur Sage findet ihre Erklärung in der lückenhaften historischen Bildung des Werktätigen. Dagenen nimmt die aus der Sage heraus entwickelte Helden- und Abenteuer-geschichte breitesten Raum in der Lektüre ein (50–80%), wobei zu bemerken ist, dass der geistig höherstehende Jugendliche die historische Erzählung bevorzugt. Nur in dieser Spielart ist also das Sagenzeitalter in der ontogenetischen Entwicklung nachweisbar. Aus der religiösen Literatur kommt höchstens das religiös Helden-hafte in Frage. Ein bestimmter Typus unter den Jugendlichen überspringt diese Stufe und gelangt frühzeitig zuh realistischen Stoffgattung. An ihnen kann man besonders deutlich den um das 16. Lebensjahr herum sich vollziehenden Wandel in der literarischen Betätigung wahrnehmen. In quantitativer Hinsicht steht einem

Nachlassen des literarischen Interesses ein qualitativer Wandel in der Richtung von der Einheit: Subjekt und Welt auf ihre Trennung mit Bevorzugung der Ich-tendenz gegenüber. Proletarisches Milieu, sozialer Kampf und Pubertätsentwicklung sind die verursachenden Faktoren. Deutlich ist auch der Weg von der Kindergeschichte zum modernen Entwicklungsroman zu verfolgen. Nur der literarisch Hochstehende gewinnt die Würdigung des Kindlichen zurück. Für eine Auslese von etwa 25–30% lässt sich eine deutliche Entwicklung zum höheren Kunstverständnis nachweisen, bei denen der einzelne je nach seiner intellektuellen oder künstlerischen Anlage eine gewisse Stufe erreicht oder sich in bestimmter Weise qualitativ differenziert. Auf die Erwähnung der zahlreichen Einzelzüge dieser Entwicklung muss hier verzichtet werden. "Die grosse Zahl der beobachteten Typen und Varietäten beweist aufs neue, dass trotz des nivellierenden Einflusses sozialer Hemmungen das ungebildete Volk keineswegs, wie weite Kreise anzunehmen geneigt sind, eine psychisch undifferenzierte 'Masse' darstellt." H. BOGEN (Berlin).

926. VOWINCKEL, E., Pädagogische Typenlehre. *Päd. Reihe*, Band 12, 277 S.

Die Charakterologie und Typologie erfreut sich, nach Bahnsens Grundlegung, Diltheys geistvoller Beseelung, Klages' Erneuerung, einer Reihe tüchtiger Forscher, wie William Stern, Müller-Freienfels, Eduard Spranger, und durchdringt gegenwärtig die verschiedensten Wissensgebiete. Das vorliegende Buch stellt die erste umfassendere pädagogische Typenlehre dar nach den Anfängen bei Grunwald und des Verfassers "*Psychologie der Pädagogik*." Nach der phänomenologischen Vorbereitung erwachsen, unterstützt von gediegenen historischen Kenntnissen, unbefangenen Blick für die Gegenwart und seltener philosophischer Einfühlung, in kritisch-dialektischer Behandlung die Typen. Unterricht und Erziehung erhalten so eine durchleuchtende Bereicherung, die reichhaltigen Lehrer- und Schülertypen werden gesichtet, und auch der soziologischen Seite der Schulegemeinschaft wird Rechnung getragen. F. SCHROEDER (Königsberg).

927. NACCARATI, S., and GARRETT, H. E., The Influence of Constitutional Factors on Behavior. *J. of Exper. Psychol.*, 1923, 6, 455–465.

The authors have reviewed certain literature which deals with the

relation between intelligence and heredity and environment, and have reported some experiments of their own which bear on the question of the relation between morphology and performance. Various sensory and motor tests were given to groups of college students, and correlations worked out between the results of these tests and the morphologic indices of those tested. The results substantiate the positive relation previously found between physical development and intelligence, and indicate further that in speed and flexibility of mental and motor performance those individuals with high morphologic indices surpass those with low indices. The correlation between morphologic type and speed of movement and association is somewhat higher for men than for women. C. C. PRATT (Harvard).

928. POFFENBERGER, A. T., and CARPENTER, F. L., Character Traits in School Success. *J. of Exper. Psychol.*, 1924, 7, 67-74.

The Downey Will Temperament Test was given to two groups of school children with a view to determining what traits make for success and what for failure. One group was selected on the basis of a school record which was better than the intelligence test record or I.Q. would indicate; the other was selected on the basis of the opposite criterion. A study of the records points to the following traits as essential to "success": great care for detail, lack of freedom from load, lack of motor inhibition, high degree of assurance, and high degree of perseverance. The traits characteristic of "failure" are: lack of care for detail, lack of motor impulsion, motor inhibition, and lack of flexibility. "Certain so-called character traits do contribute to success or failure in school work. These are, on the whole, what common sense would lead us to expect. For instance, speed and flexibility of reaction, assurance, perseverance and care for detail are traits indicative of success, while the failures tend to lack speed, and flexibility, to be careless and not persevering. Other traits take on significance when one goes back of the mere name and analyzes the actual task performed. . . . These traits are such as can be measured by relatively simple test methods." C. C. PRATT (Harvard).

929. MCCREADY, E. B., The Instability of Adolescence and Its Treatment from the Endocrinological Viewpoint. *N. Y. Med. J.*, 1923, 118, 199-202. D. A. LAIRD (New Haven).

930. MARTIN, E. M., An Aptitude Test for Policemen. *J. of Crim. Law and Crim.*, 1923, 14, 376-404.

The report of an exceptionally thorough statistical study made on a group of Newark policemen in order to devise an efficient type of entrance examination for the police service. M. S. CHILD (Boston Psychopathic Hospital).

931. HART, H., Predicting Parole Success. *J. of Crim. Law and Crim.*, 1923, 14, 405-413.

A statistical reëxamination of Professor Warner's investigation of factors determining parole success brings out conclusions at striking variance with those of Professor Warner. In failing to weight his factors statistically by means of partial and multiple inter-correlation he overlooks the most significant findings concealed in his carefully compiled data. In a subsequent study of this same material Hart finds that the percentage of violations of paroles among men paroled from the Massachusetts Reformatory could be reduced through the scientific utilization of this material. He suggests further that a scale of predictable successes be made whereby an individual receive a definite rating on the probability of parole success—approaching in theory and practice the scientific precision of insurance probability. M. S. CHILD (Boston Psychopathic Hospital).

932. ANDERSON, V. V., The Psychiatric Clinic in the Treatment of Conduct Disorders of Children and the Prevention of Juvenile Delinquency. *J. of Crim. Law and Crim.*, 1923, 14, 414-456.

In accord with the modern psychiatric swing from diagnosis to prevention, the Commonwealth Fund of New York City has recently embarked on a stupendous, five-year program in the prevention of delinquency—quite the most noteworthy and far-reaching attempt ever made to weed out potential crime and juvenile delinquency. With the assistance of the New York School of Social Work, the National Committee for Mental Hygiene, the Public Education Association, and the Joint Committee on Methods of Preventing Delinquency, it is demonstrating by means of three clinics, two of which are traveling, that conduct disorders in children can be corrected and prevented by the proper and timely utilization of psychiatric assistance. This whole campaign is motivated by the nations: first, that character is not "an inherited, fixed, permanent

and unmodifiable entity, but that it is the product of the life experience of the human organism" and that psychiatry, studying the reactions of the individual as a whole to his environment, can detect the factors contributing to his maladjustment, and in many cases, particularly in the adolescent and preadolescent ages, and modify; and secondly, that "the great majority of all criminal careers begin in childhood." The first clinic was held in St. Louis over a six-months period in 1922. Thorough and detailed psychiatric, physical, social, educational, and psychological studies were made on 300 cases of conduct disorder ranging in age from three to twenty, the median age being fourteen. The findings (reported in this article) are extremely important. For instance, contrary to the common idea, psychopathic personality was found to be three times as prevalent as mental defect. The response to investigation was marked, only $4\frac{1}{2}$ per cent of the first 200 cases being unsatisfactory; but the investigators stress the fact that in order to make this permanent, systematic and prolonged follow-up work must be made. M. S. CHILD (Boston Psychopathic Hospital).

933. THORNDIKE, E. L., On the Improvement in Intelligence Scores from Fourteen to Eighteen. *J. of Educ. Psychol.*, 1923, 14, 513-516.

Thorndike, with a few over 4,000 high school students as material for observation, has here studied the problem given so much popular emphasis through the results of the arm' test scores, i.e., improvement above the fourteen-year level. The method is that of testing children of ages from fourteen to seventeen, then retesting after an interval of a year and measuring thus the improvement. Apparent improvement due to practice in taking the first test was calculated and deduced from the estimate of true growth made. The amount of advantage from practice was judged by having students of known intelligence take the second test without having taken the first and noting the number of points their scores fell below the scores of students of the same power who had had the advantage of taking test number one. The study shows a development each year of about ten months of mental age around fourteen. No decrease in gain for the separate years from fourteen to eighteen was disclosed. J. D. WEINLAND (Lehigh).

934. GATES, A. I., and LA SALLE, J., The Relative Predictive Values of Certain Intelligence and Educational Tests Together with a Study of the Effect of Educational Achievement upon Intelligence Scores. *J. of Educ. Psychol.*, 1923, 14, 517-539.

Here the value of tests of intelligence are compared in prognostic value with school achievement tests, as measured on seventy-five students in the third, fourth, fifth, and sixth grades. The prognostic value of all the tests, the Binet excluded, is found to decrease with time, twenty months being the greatest extent measured. The best means of predicting success in any subject is found to be an achievement test in that particular subject, though due to their greater independence of particular methods followed in separate schools the intelligence tests are found to have undoubted value. Burt's findings in the relation of native intelligence to school training in mental age are questioned and data presented to show that though improvement in school achievement does affect National Intelligence scores it does not affect Stanford-Binet scores. An analysis of the results by means of partial correlations seems to reflect against Spearman's theory of a general factor in intelligence and support the conclusion that "mental ability is a multitude of specific abilities of which a large number are active during each mental act . . . some common to many, some to few." J. D. WEINLAND (Lehigh).

935. JOHNSON, O. J., A Study of the Relation Between Ability to Learn and Intelligence as Measured by Tests. *J. of Educ. Psychol.*, 1923, 14, 540-542.

The material for learning in this study was inverted print in a mirror; the subjects, sixty university students. Ten minutes work each day for twenty days with accurate recording of words read provided the data on learning. During the course of the experiment a number of group intelligence tests were given to the class and at the conclusion of the work correlations were figured between the average scores on all the tests and performance in mirror reading. These correlations were: with the average number of words read per day .34 and with the improvement in the ability to read .46. Rapidity of improvement is thus found to have a closer relation with intelligence than amount of work done. The conclusions indicate the necessity of considering the intelligence of the subjects in any experiment on the learning processes. J. D. WEINLAND (Lehigh).

936. TRABUE, M. R., Scales for Measuring Judgment of Orchestral Music. *J. of Educ. Psychol.*, 1923, 14, 545-561.

The Mohler tests for measuring ability to judge orchestral music are here reported. These tests involved the use of phonograph records of sixteen musical compositions; their relative merits having been determined by combining the judgment of expert musicians with the judgments of other intelligent adults. The tests are so administered that a person who can detect small differences in musical quality will receive a high score while one who can detect only large differences will receive a low score. The most distinct findings of the study were that musical appreciation can be improved. It appears that this improvement may be unusually large, especially when contrasted to the possibility of improvement in the appreciation of poetry which is almost nil. In almost every case recorded groups receiving training in musical judgment improved their median scores ten or more times more than their control groups. The smallest amount of improvement in any group trained was at the Horace Mann High School in New York City, where the children had a relatively high score when the experiment was started. J. D. WEINLAND (Lehigh).

937. THORNDIKE, E. L., Mental Discipline in High School Studies. *J. of Educ. Psychol.*, 1924, 15, 1-22.

This paper deals with an exhaustive study of the gain in scores of pupils, within a year's time according to the subjects studied. To cite one of the many comparisons: the gains for pupils who studied "English, history, geometry, and Latin" are compared with the gains for the pupils who studied "English, history, geometry, and shop-work." Over 8,500 pupils in grades IX, X, XI were tested in May, 1922, and then reexamined in May, 1923. Space does not permit a description of the composite examination used. Those interested can find a full outline of it in the *J. of Educ. Res.*, 1922, 5. The following are a few of the striking results thus far obtained. Those pupils who studied mathematics as it is taught in the schools to-day increased their ability to think by a small amount; but not much larger than the gains in other subjects. In fact in some instances cooking, sewing, biology and bookkeeping showed as large gains as those made in the mathematics group and in others even greater gains. Further reports on this important problem are to be made. G. M. MICHAELS (Columbia).

